



## DOCTOR OF CLINICAL PSYCHOLOGY (DCLINPSY)

### Doctorate in Clinical Psychology: Research Portfolio

**1) Childhood perfectionism: assessment, development, and treatment; 2) Improving assessment of trauma in looked after children ; 3) Is post-stroke depression phenomenologically different in people who have not experienced a previous episode of depression? A pilot study.**

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# Research Portfolio Submitted in Part Fulfilment of the Requirements for the Degree of Doctorate in Clinical Psychology Volume 1 of 2

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Charlotte Louisa Morris

Doctorate in Clinical Psychology

University of Bath  
Department of Psychology

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## **Critical Review of the Literature**

**Title of report:** Childhood perfectionism: Assessment, development, and treatment

**Author:** Charlotte Morris

**Contact details:** Department of Clinical Psychology, 6W 0.9  
University of Bath  
BA2 7AY  
Email: [lottie.morris@nhs.net](mailto:lottie.morris@nhs.net)

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**Internal supervisor:** Dr Claire Lomax

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# **ASSESSMENT, DEVELOPMENT & TREATMENT OF CHILDHOOD PERFECTIONISM: A SYSTEMATIC REVIEW**

## **ABSTRACT**

**Background:** In the adult literature, perfectionism has been linked with psychopathology and poor treatment outcomes, leading to perfectionism-focussed therapies. The child and adolescent perfectionism literature is comparatively sparse. **Methods:** A systematic search of five electronic databases (Web of Knowledge, APA PsycNET, PubMed, ERIC/ProQuest, and Scopus) was conducted to identify studies of perfectionism in children and adolescents, in the context of psychopathology. **Results:** The search identified 130 studies, 84 of which discussed perfectionism as a correlate of mental health problems. These studies were briefly synthesised, with the systematic review focussing on evaluating papers on the development ( $n = 20$ ), assessment ( $n = 19$ ), and treatment ( $n = 7$ ) of perfectionism. **Conclusion:** Treatment studies did not reflect the phenomenology of perfectionism found in this review.

**Keywords:** Perfectionism, child, adolescent, mental health, psychopathology

## **Key Practitioner Message:**

- Perfectionism-focussed therapies improve treatment outcome in adults but further research is needed with children and adolescents
- Clinicians should be aware of the role of perfectionism in psychopathology and its negative impact on treatment outcome.
- Where perfectionism is highlighted, contemplate targeting this early on in therapy, considering parental factors (pushy parenting style, harsh expectations, parental self-criticism and perfectionism), child factors (self-criticism, self-esteem), and attachment style.
- Perfectionism itself can be associated with achievement and emotional wellbeing: aiming at supporting people to develop striving, adaptive perfectionism may be helpful.
- Consider publishing case studies of perfectionism treatment to add valuable knowledge to the empirical understanding of perfectionism in children.

## INTRODUCTION

In recent years, the construct of perfectionism has received considerable attention in the literature. While reviews of perfectionism relating to adult populations have been published, the authors are not aware of any similar article relating to perfectionism in children and adolescents since Flett & Hewitt's (2002) book chapter. This article seeks to synthesise and critically evaluate empirical studies of perfectionism, to provide an overview of the current understanding of:

- the development of perfectionism in children and adolescents
- the association between perfectionism and psychopathology in children and adolescents
- tools for assessing perfectionism in children and adolescents
- the treatment of perfectionism in children and adolescents

The adult literature suggests that perfectionism is a transdiagnostic process, implicated in both the development and maintenance of a range of mental health problems (including eating disorders, depression, bipolar disorder, suicidal ideation, anxiety disorders, obsessive compulsive disorder, social anxiety, panic disorder, and personality disorders) (e.g. Egan, Wade, & Shafran, 2011), and associated with poor treatment outcomes. This has led to the development and empirical testing of several theories of perfectionism as a personality type or cognitive style, which will be discussed subsequently. Several studies have been conducted, suggesting that treatment of perfectionism is associated with reductions in psychopathology and improved response to treatment, leading to recommendations that clinicians routinely assess and treat perfectionism in the context of mental health problems (Egan et al., 2011). Fewer studies have examined the role of perfectionism in child and adolescent mental health problems. Indeed, only one controlled trial specifically targeting perfectionism was identified, and this was not within a clinical population. Therefore, this review seeks to synthesise the existing literature on perfectionism in the context of child and adolescent psychopathology, with a view to making recommendations for future research and clinical practice.



### *Defining perfectionism*

Perfectionism was first described as a personality trait by Hollender (1978), but has since generally been accepted as a cognitive process, involving the setting of high standards. Researchers have suggested that perfectionism can be a positive trait, where it involves striving for excellence (Slaney & Ashby, 1996), but that it can be maladaptive in cases where there is large discrepancy between one's goals and perceived performance; and where one's entire self-worth is based on achieving excellence, accompanied by self-criticism (Frost et al., 1990). Furthermore, some researchers have proposed that perfectionism is a multidimensional construct, existing of multiple sub-types and presentations of perfectionism. These models are outlined in the assessment section of this paper.

Shafran et al.'s (2002) critique of the literature suggests the following theoretically-based definition. They propose the term 'clinical perfectionism', defined as

*“the overdependence of self-evaluation on the determined pursuit of personally demanding, self-imposed standards in at least one highly salient domain, despite adverse consequences”*

(Shafran et al., 2002, p.778)

This definition shall be used for the remainder of the paper. In the interests of brevity, the term “childhood” has been used to describe the population being studied in this review – people under the age of 18.

## **METHODOLOGY**

### *Identification of studies*

The present review is guided by the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement (Moher, Liberati, Tetzlaff, & Altman, 2009). A search of five electronic databases (Web of Knowledge, APA PsycNET, PubMed, ERIC/ProQuest, and Scopus) was carried out on 9<sup>th</sup> August 2013. Individualised search strategies for each database were created, using the terms perfectionism AND (infant OR child OR adolescent). For databases where it was possible to filter articles according to age of participants, a search of 'perfectionism' was conducted, and then filtered to include only those articles relating to under-18s.

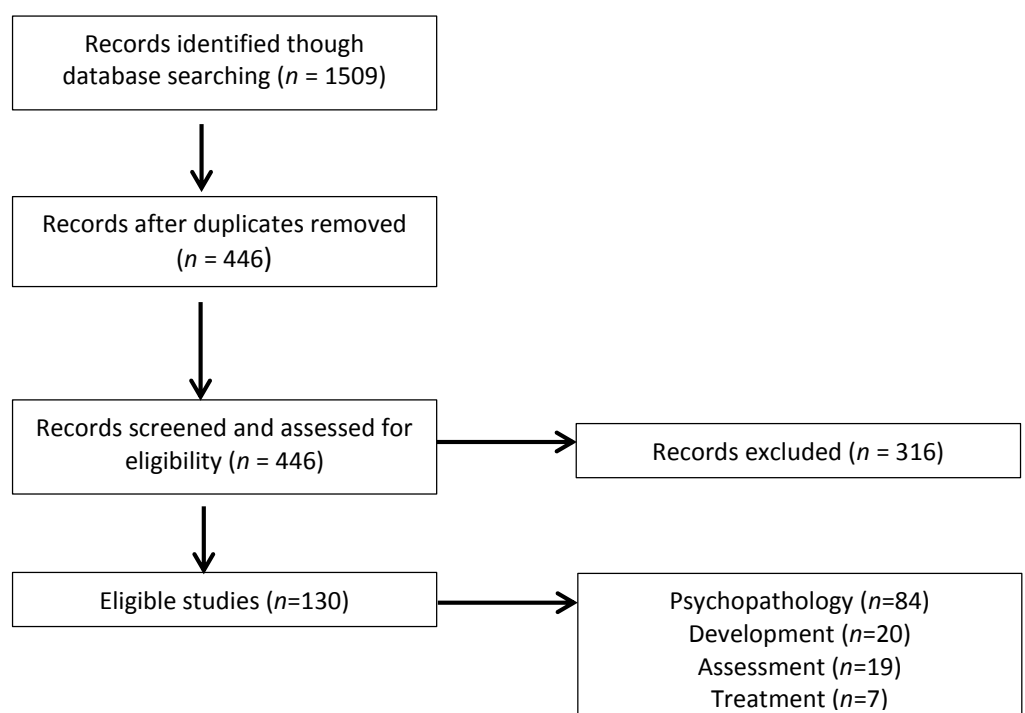
### *Inclusion/exclusion criteria*

Each article was assessed for inclusion, according to the following criteria: (a) the article was published in English language in a peer-reviewed journal; (b) the article discussed perfectionism, in the context of psychopathology; (c) the article related to under-18s. Studies relating to perfectionism in gifted and talented children and elite athletes, where psychopathology was not discussed, were excluded. Theses, conference abstracts, book chapters, and studies published in non-peer reviewed journal were also excluded.

### *Process of literature search*

The initial database search yielded 1,509 records; 446 after duplicates were removed. The titles and abstracts of these articles were then screened for inclusion. In cases where it was not clear from the abstract whether the article met inclusion criteria, the full-text article was reviewed. This led to 130 articles being included in the review. 84 of these articles were studies examining perfectionism as a correlate or predictor of various mental health problems. Since this is already a well-established phenomenon, the authors decided to set aside these studies for a more brief evaluative review. This left 46 articles, which were divided into the following categories: (a) development (20); (b) assessment (19); and (c) treatment (7).

**Figure 1.** Flow of studies through the process of the literature review



Since measures of perfectionism were conceptualised in the 1990s (e.g. Frost, Marten et al., 1990; Hewitt, Flett et al., 1991), there has been a large amount of research investigating the development of perfectionism, and its relationship with psychopathology. In order to describe the research implications of studies investigating the development and treatment of perfectionism, the key assessment tools for use with children will first be outlined. These measures provide different ways of conceptualising the construct of perfectionism. Empirical studies of the development of perfectionism will then be described, followed by an overview of the literature pertaining to the role of perfectionism in childhood mental health problems. Finally, studies of the treatment of perfectionism in children will be summarised and critically evaluated.

## **THE ASSESSMENT OF PERFECTIONISM**

Perfectionism is generally accepted as a multidimensional construct, and following the development of assessment measures for adults in the early 90s (e.g. Frost, Marten et al., 1990; Hewitt, Flett et al., 1991), these have now been adapted for use with children and adolescents. The key measures, derived from the above literature search are outlined in the table below. The measures have slightly different ways of conceptualising the various dimensions of perfectionism, so it is hoped that outlining these measures will assist the reader in understanding and drawing conclusions from the subsequent descriptions of research in this field.

	The Child and Adolescent Perfectionism Scale (Flett et al., 1997 (in Rory C. O'Connor, Dixon, & Rasmussen, 2009))	The Perfectionistic Self-Presentation Scale – Junior Form (Hewitt et al., 2011)	The Almost Perfect Scale – Revised (Slaney et al., 1996 (in Rice, Ashby, & Gilman, 2011))
<b>Background</b>	Derived from Hewitt, Flett et al.'s Multidimensional Perfectionism Scale (MPS, 1991). 22-item self-report scale.	Developed from the CAPS to encompass broader, empirically-grounded dimensions of perfectionism. 18-item self-report scale.	Relates closely to definitions by Shafran and colleagues (2002): maladaptive perfectionism consists of high standards and self-critical performance evaluation
<b>Dimensions</b>	<ol style="list-style-type: none"> <li>1. Self-Oriented Perfectionism (SOP): setting very high personal standards, with non-attainment of goals leading to self-criticism</li> <li>2. Socially-Prescribed Perfectionism (SPP): perceiving that others have very high standards for the individual</li> </ol>	<ol style="list-style-type: none"> <li>1. The original CAPS dimensions: SOP, SPP, and Other-Oriented Perfectionism (OOP)</li> <li>2. Interpersonal dimensions: <ul style="list-style-type: none"> <li>- <i>perfectionistic self-promotion</i> (i.e. showing off one's perfection to others);</li> <li>- <i>nondisplay of imperfection</i> (i.e. behaviourally concealing one's imperfection);</li> <li>- <i>nondisclosure of imperfection</i> (concealing one's imperfection by not telling others about it).</li> </ul> </li> <li>3. Cognitive dimensions: information processing factors and negative automatic thoughts.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adaptive Perfectionists: elevated High Standards, low Discrepancy scores (i.e. perceives that own standards are being met)</li> <li>2. Maladaptive Perfectionists: elevated High Standards, elevated Discrepancy scores</li> <li>3. Non-perfectionists: average High Standards scores</li> </ol>
<b>Evaluation</b>	<p>Recent studies (O'Connor, Dixon and Rasmussen, 2009; McCreary et al., 2004) suggest that the CAPS should have three dimensions:</p> <ol style="list-style-type: none"> <li>1. Socially-Prescribed Perfectionism</li> <li>2. Self-Oriented- } (maladaptive) Critical Perfectionism</li> <li>3. Self-Oriented-Striving Perfectionism (adaptive)</li> </ol>	Factor analysis suggests the key factors of this measure are the interpersonal dimensions (Hewitt et al., 2011; Flett, Coulter & Hewitt, 2012). SOP seems to be highly correlated with psychological distress, therefore it is important for clinicians to note that this measure does not explicitly assess SOP (according to the factor-analytic studies).	One cluster analysis study (Rice & Preusser, 2002) was found which supports the notion of these three dimensions. While this scale is well-grounded in theory and research relating to the construct of perfectionism, it provides less descriptive information about maladaptive perfectionism than other scales.

	<b>The Adaptive/Maladaptive Perfectionism Scale (AMPS) for Children (Rice and Preusser, 2002)</b>	<b>The Perfectionism Cognitions Inventory (Flett et al., 1998)</b>	<b>The Frost Multidimensional Perfectionism Scale (Frost et al., 1990)</b>
<b>Background</b>	Questionnaire items developed from cognitive and psychodynamic theories of perfectionism, expert review, and factor and reliability analyses. 27-item self-report scale.	Based on empirical findings relating distress to perfectionistic cognitions. 25-item self-report scale.	Scale originally developed and validated for use with adults. Has subsequently been trialled with adolescents.
<b>Dimensions</b>	<ol style="list-style-type: none"> <li>1. Sensitivity to Mistakes: distress as a result of making errors</li> <li>2. Contingent Self-Esteem: self-esteem based on meeting high standards</li> <li>3. Compulsiveness: conscientiousness and organisation</li> <li>4. Need for Admiration: desire for recognition and admiration</li> </ol>	One large factor of perfectionism	<ol style="list-style-type: none"> <li>1. Concern over Mistakes</li> <li>2. Doubts about Actions</li> <li>3. Personal Standards</li> <li>4. Parental Expectations</li> <li>5. Parental Criticism</li> <li>6. Organisation</li> </ol>
<b>Evaluation</b>	Factor analysis supports these factors (Rice, Kubal & Preusser, 2004), however Rice et al. (2007) subsequently queried the validity of the Contingent Self-Esteem factor. Constructs of this measure map well onto the PSPS-Jr and CAPS.	Flett et al. (2012) found the PCI to have good internal consistency and concurrent validity. Measure may be useful in conducting a thorough assessment of perfectionistic cognitions.	Studies suggest four, rather than six dimensions for adolescents: Concerns and Doubts; Personal Standards; Parental Pressure, and Organisation (Hawkins, Watt and Sinclair, 2006; Stober, 1998; Stumpf and Parker, 2000).

## **Other Measures Which Include Assessment of Perfectionism**

The Child Dysfunctional Attitudes Scale (CDAS) contains questions about perfectionism, which cluster into Self-Critical Perfectionism and Personal Standards Perfectionism (McWhinnie et al., 2009), or Perfectionism and Social Approval (Rogers et al., 2009). The Revised Connor's Parent Rating Scale (Conners et al., 1998) contains a factor measuring perfectionism, as do the Eating Disorder Inventory-Child (Franko et al., 2004; Leung, Wang and Tang, 2004), and the Multidimensional Anxiety Scale for Children (March et al., 1997). For infants, the Childhood Routines Inventory (Evans et al., 1997) contains a "Just Right" subscale, which appears to be consistent with the Organisation and Compulsiveness factors of the Frost MPS and AMPS, respectively.

## **THE DEVELOPMENT OF PERFECTIONISM**

### *Parenting and perfectionism*

In 1995, Flett, Hewitt and Singer noted that few studies have examined the relationship between parenting style and perfectionism. Their retrospective study of 100 undergraduate students and their parents had mixed results, finding a relationship between authoritarian (as opposed to the less critical "authoritative" style) child-rearing and Socially-Prescribed Perfectionism in males only, perhaps a result of cultural/societal gender-role influences. This was not true for females: women with permissive fathers had higher Socially Prescribed Perfectionism. Women with high Self-Oriented Perfectionism rated their parents as warm and authoritative, leading the authors to conclude that perhaps women with supportive family environments set high goals for themselves. The authors recommended that further research should be conducted with children and adolescent populations. A recent study by Mitchell et al. (2013) experimentally manipulated maternal perfectionistic child-rearing behaviours (i.e. overprotection from mistakes, focus on negative consequences of mistakes). All children showed an increase in SOP in response to highly perfectionistic child-rearing behaviours. Children receiving non-perfectionistic parenting improved in task performance. This provides strong evidence in support of the role of parent behaviour in the development of child perfectionism.

Since then, the authors are aware of just eleven studies specifically exploring the relationship between parenting style and perfectionism in children. Kenney-

Benson and Pommerantz (2005) observed mother-child dyads completing a homework task, and found that a “pushy” style of parenting (the use of behavioural and psychological practices designed to push children to achieve certain outcomes, in an intrusive manner) was strongly associated with socially-prescribed and self-oriented perfectionism. Interestingly, statistical adjustments suggested that “maternal control” (pushing child to achieve goals) was linked with only socially-prescribed perfectionism, leading the authors to suggest that self-oriented perfectionism may develop secondary to socially-prescribed perfectionism.

Linked to the relationship between parenting and perfectionism are two questionnaire-based studies of attachment. Besharat et al. (2011) found anxious attachment styles in adolescents was associated with Perfectionistic Self-Promotion (PSP) and Socially-Prescribed Perfectionism (SPP). They also found some gender differences: avoidant attachment to fathers was related to PSP, whereas avoidant attachment to mothers was associated with SPP. These findings were corroborated by Chen et al. (2012), who found that anxious attachment was associated with non-disclosure of imperfection in adolescents. A study by Shanmugan, Jowett and Meyer (2012) suggests that insecure attachment styles might lead to the development of self-critical perfectionism, which then interacts with other factors in the development of disordered eating.

A study by Essau et al. (2008) suggested wider, cultural influences on the development of perfectionism. They found that Chinese adolescents were significantly more anxious than children in many other countries, and suggested a hypothesis that Chinese culture encourages high personal standards and competitiveness, leading to the negative aspects of perfectionism causing anxiety.

#### *Possible gender differences*

Clark and Coker (2009) examined the relationship between perfectionism and self-criticism in mother-child dyads, and found no direct relationship between mother and child perfectionism. However, they did find links between self-criticism – a key component of maladaptive perfectionism – in mothers and their female offspring, and also that maternal criticism was associated with dysfunctional perfectionism in their children. Again, this provides some evidence for gender differences in the apparent intergenerational transmission of cognitive styles which may contribute to

maladaptive perfectionism in children. However, another study by Cook and Kearney (2009) contradicts Clark and Coker's findings: their similar study found associations between mothers' and sons' self-oriented perfectionism, and that mothers' socially-oriented perfectionism related to sons' internalising psychopathology. These two studies used similar numbers of participants, of a similar age. Clark and Coker used the Frost Multidimensional Perfectionism Scale (Frost et al., 1990), while Cook and Kearney used the Child and Adolescent Perfectionism Scale (Flett et al., 1997), so perhaps the different results may be attributed in part to these measures. Adding further uncertainty to the association between parent and child perfectionism, Rice, Tucker and Desmond (2008) found only a weak association between parent and child perfectionism, although the study does not appear to have investigated gender differences, so may have found stronger correlations (in line with the afore-mentioned studies), had they done so.

McArdle et al. (2009) studied three dimensions of parenting in relation to perfectionism: psychological control (manipulating the child's behaviour through means such as "*love withdrawal*" and "*guilt induction*" (p.598)), behavioural control (setting limits), and acceptance (emotional and practical support). They found that children with psychologically and/or behaviourally controlling (as opposed to autonomy-encouraging) parents reported higher doubts about their actions, although there was no relationship between parenting and children's personal standards. Soenens et al. (2008) conducted a similar study with twice as many participants, and found that parent psychological control predicted child maladaptive perfectionism, with the exception of mother-daughter dyads.

### *Cognitive processes in perfectionism*

In the adult literature, perfectionism was first described as a personality trait (Hollender, 1978), and later as a cognitive process, involving the setting of high standards upon the achievement of which one's entire self-worth is based, accompanied by highly critical self-evaluation (Frost et al., 1990). Davis and Wosinski (2012) found that cognitive errors (catastrophising, over-generalising, personalising, and selective abstraction) were significant predictors of "maladaptive" perfectionism. In addition, Flett et al. (2011) found that rumination was not only associated with perfectionism, but mediated the relationship between perfectionism and depressive symptoms. In other studies, Flett and colleagues



(2008, 2012) found specific differences between adolescents with self-oriented and socially-prescribed perfectionism: those with SOP tended to have internalised, emotion-oriented coping responses and “irrational” beliefs, whereas those with SPP reported avoidance-oriented coping strategies. While they found SOP and SPP to both be associated with distress, irrational beliefs predicted variance in distress more than perfectionism did. Therefore it seems likely that the relationship between perfectionism and distress in children is not linear, rather it is moderated by additional cognitive factors such as rumination, coping style, and irrational beliefs. Shahar et al. (2004) used a longitudinal design to further assess the relationship between self-criticism and depression, and concluded by proposing a reciprocal causality model, whereby self-criticism and depression feed into each other, although there was again a gender difference, with depressive symptoms feeding into self-critical thinking for girls, but not boys.

In addition to parenting factors as possible mechanisms for the development of these cognitive styles, Lindberg and Distad (1985) describe a series of cases of survivors of childhood sexual abuse. The authors noted that perfectionism was highly prevalent in these individuals, and may have been a coping strategy to counter feelings of worthlessness and despair.

#### *Developing positive perfectionism*

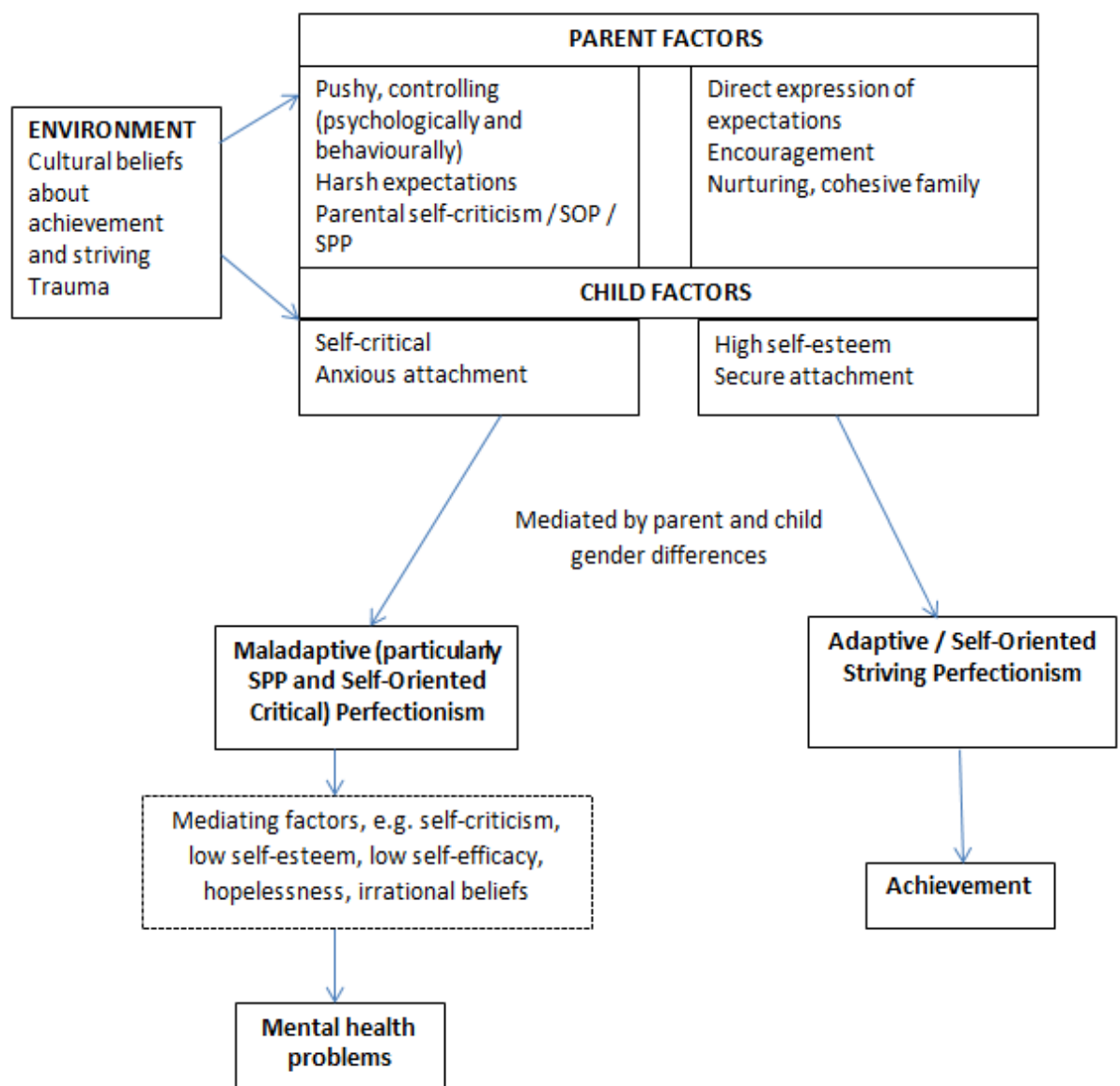
Family factors such as nurturing, cohesion, and adaptability appear to be related to child perfectionism. Di Prima et al. (2011) found that adaptive perfectionists tended to have more balanced, nurturing, and cohesive families than non-perfectionists or maladaptive perfectionists. This notion is supported by Flett and Hewitt (2012), who found that adolescents with high levels of socially-prescribed perfectionism reported reduced levels of family support. However, causality cannot be inferred from these correlational studies. Another study found that maternal expression of direct expectations and encouragement (as opposed to setting out expectations in a more controlling, harsh way) was linked with “self-striving” on the child’s part, where the child was able to have high expectations for themselves without being overly concerned about making mistakes or pleasing other people (Hutchinson and Yates, 2008).

Interestingly, a study by Tong and Lam (2011) found that children who were more willing to internalise their mothers’ goals had higher self-oriented perfectionism (but not socially-prescribed perfectionism), and lower depression. Therefore

children are perhaps more likely to develop adaptive perfectionism, where their goals are similar to those of their parents.

With the exception of Soenens et al.'s study, the existing literature regarding parental influences on the development of child perfectionism are correlational. This presents a problem for developing theory about causal mechanisms behind perfectionism. Figure 1 shows a tentative model highlighting the key aspects linked to childhood perfectionism in the literature. Further research should include more longitudinal and experimental studies to test the theories of intergenerational transmission of perfectionistic/self-critical cognitions, and the influence of parenting style and attachment on child perfectionism.

Figure 1. A hypothesised model of the development of childhood perfectionism



## **ASSOCIATIONS BETWEEN PERFECTIONISM AND PSYCHOPATHOLOGY IN CHILDREN AND ADOLESCENTS**

There have been many correlational studies, and a handful of longitudinal studies examining the role of perfectionism in child mental health problems. This next section seeks to set out and synthesise the findings from these studies.

### **Depression**

Most studies have discussed perfectionism as a multidimensional construct, with positive and negative aspects. Drawing on Frost et al.'s (1990) multidimensional model of perfectionism, Accordino, Accordino and Slaney (2000) found that discrepancies between personal standards and actual performance was linked with increased depression and lower self-esteem. However, interestingly, high personal standards alone (in the absence of discrepancy) predicted academic achievement and higher self-esteem. Similarly, some studies drawing on an adaptive/maladaptive concept of perfectionism (e.g. Rice et al., 2007) have found "negative" perfectionism to predict anxiety and depression (Afshara et al., 2011; Leon, Kendall and Garber, 1980; Roohafza et al., 2010), with Afshara et al. noting positive perfectionism as a protective factor.

In line with Hewitt and Flett's (1991) model of perfectionism, other studies have found different sub-types of perfectionism to be differentially related to depression, although results are mixed. Einstein, Lovibond and Gaston (2000), Huggins et al. (2008), and O'Connor, Rasmussen and Hawton (2010) found that Socially-Prescribed Perfectionism (SPP), but not Self-Oriented Perfectionism (SOP) was related to depression. Other studies have found both SOP and SPP to be associated with depression (Hewitt et al. 2002; Stornelli, Flett and Hewitt, 2009). O'Connor and colleagues (2010) found that self-critical (as opposed to self-striving) SOP combined with life stress predicted depression and self-harm.

Some studies have suggested that the relationship between perfectionism and depression is not linear, but mediated by additional factors such as hope (Ashby et al., 2011) and self-efficacy (Flett, Panico and Hewitt, 2011). This might explain, in part, some of the variance in findings outlined above.

### *Suicidal behaviour*

Several studies, outlined below, have found a link between perfectionism and suicide, with the exception of Gould (1998), who found that perfectionism did not significantly increase suicide risk after controlling for psychiatric disorder. Weisse (1990) and Kirkaldy et al. (2006) reported perfectionism as a precipitating factor in adolescent suicide although, similar to the studies of perfectionism and depression, researchers have found particular aspects of perfectionism, namely severe self-criticism and self-doubt (Bibeau and Dupuis, 2007; Bell et al., 2010; Boergers, Spirito, and Donaldson, 1998; Donaldson, Spirito and Farnett, 2000; Enns, Cox and Inayatulla, 2003) to be implicated in suicidal behaviour.

Interestingly, while high SOP has been implicated in depression, studies have found that high SPP (Freudenstein et al., 2012; Hewitt et al., 1997; Roxborough, 2012) is linked with higher levels of suicidal behaviour. Roxborough also found that Perfectionistic Self-Presentation (PSP) was associated with suicide, but relationship between SPP and PSP and suicide was mediated by hopelessness. This again suggests a non-linear relationship between perfectionism and psychopathology.

### **Anxiety**

“Negative” perfectionism has been associated with anxiety in adolescents (Essau, 2008; Roohafza et al., 2010; Suveg, Jabob and Thomassin, 2009). Looking in more detail at the role of particular dimensions of perfectionism, some studies have found both SOP and SPP to be associated with high anxiety (Hewitt et al. 2002; Stornelli, Flett and Hewitt, 2009). One study found only SPP to be related to anxiety (Einstein, Lovibond and Gaston, 2000), while another found that self-critical (as opposed to self-striving) SOP predicted anxiety.

Adding to the debate around the association between different dimensions of perfectionism with anxiety, Guignard, Jaquet and Lubart (2012) found that, despite higher levels of SOP than controls, intellectually gifted children showed equal levels of anxiety. In addition, compared with another, younger control group, the intellectually gifted children showed the same level of perfectionism, but higher anxiety, suggesting a non-linear relationship between perfectionism and anxiety.

## Eating Disorders

The role of perfectionism in eating disorders is well established in the adult literature. Indeed, it is a key feature of the cognitive model of eating disorders (EDs) (e.g. Fairburn, Shafran and Cooper, 1999). This is reflected by the comparatively vast number of studies of perfectionism and its relationship to EDs in the child and adolescent literature.

### *Link between perfectionism and ED symptoms*

Many studies have also linked perfectionism to ED symptoms in children and adolescents, as a correlate and risk factor (Steiger et al., 1992; Strober, 1984; Cassidy, Allsop and Williams, 1999; Dour and Theran, 2011; Faust, 1987; Halmi et al., 2012; Nilsson et al., 2007; Pla and Toro, 1999; Waller et al., 1992). Goodwin et al. (2011) have also found links between perfectionism and compulsive exercise.

### *Lack of replication*

However, this link has not been confirmed in all child and adolescent studies, for example Gustafsson et al. (2009) found that personal standards and self-evaluation in general were not risk factors for EDs, only attitudes specifically relating to eating, weight and physical self-evaluation. This is supported by Calam and Waller (1998) and Wojtowicz and von Ranson (2012), who found that perfectionism was only weakly linked with disordered eating behaviour. Rosenvinge, Borgen, and Borresen (1999) found that high scores on the perfectionism subscale of the Eating Disorders Inventory were not linked with ED symptoms, and Bachar et al. (2010) noted that perfectionism did not predict the development of EDs. In overweight youths, Eddy et al. (2007) found that *decreased* perfectionism was associated with ED pathology. Shaw et al. (2004) tested the well-known Perfectionism x Body Dissatisfaction x Self-Esteem model used in the treatment of adults with bulimia (Vohs et al., 1999) with a group of adolescents. Despite a high number of participants (n = 496), the model did not predict increases in bulimic symptoms. There also seems to be a need for perfectionism's relationship with anorexia and bulimia to be studied separately, as childhood perfectionism predicted young adult onset of anorexia, but not bulimia (Tykra et al., 2002). This is consistent with findings in the adult literature, whereby maladaptive and self-striving perfectionism (premorbid and current) are associated with anorexia and bulimia, though more consistently with anorexia (Bardone-Cone

et al., 2007). Once again, this raises the question: are there further factors (e.g. self-efficacy, self-criticism, irrational beliefs) mediating the apparent relationship between perfectionism and EDs? At present, this is unclear because most of the studies are correlational, therefore causality cannot be inferred. There seems to be a tendency for some studies to investigate EDs as a singular category, but given that some studies have found differential relationships between AN and BN and perfectionism (e.g. Tykora et al., 2002), it seems that there is a need to study these problems separately. An alternative explanation for these inconsistent findings is the discrepancy between the construction of perfectionism by different questionnaires, making it difficult to compare and draw conclusions from these studies.

As well as differences in the role of perfectionism in different types of ED, it seems that there are also gender differences: Ferreiro (2012) found perfectionism to be a predictor of disordered eating in girls, but not boys. In contrast, Joiner, Katz and Heatherton (2000) found that males with chronic bulimic symptoms, but not females, reported elevated levels of perfectionism. McCabe and Vincent (2003) also found that perfectionism was a significant predictor of disordered eating in boys, but not girls. This again suggests that differences in results may be due to complicated measurement and sample (e.g. gender) effects, leading to a recommendation that future research specifically explores gender differences in the role of perfectionism.

#### *The role of particular dimensions of perfectionism in ED pathology*

For the studies which have found links between perfectionism and ED symptomatology, several have investigated the specific role of various dimensions of perfectionism. Unlike the more mixed results of studies of the relationship between perfectionism and anxiety and depression, the links between different dimensions of perfectionism and eating disorder symptoms seem to be more consistent.

The literature suggests a strong link between SOP and eating disorder symptoms (Bardone-Cone, 2007; Castro et al., 2004; Castro-Fornieles et al., 2007; Kirsh et al., 2007; McVey et al., 2002). Further differentiating the dimensions of perfectionism and specific eating disorder symptoms and subtypes, Bardone-Cone (2007) linked SOP with dietary restraint, and found both elevated SOP and SPP in people with bulimic symptoms. This could be linked to the binge-purge cycle of

bulimia in sufferers wanting to please others by eating, causing cognitive dissonance and self-criticism in relation to their SOP, and leading to purging.

In terms of the dimensions of perfectionism set out by Frost et al. (1990), three studies have suggested that Evaluative Concerns combined with high Personal Standards are the dimensions most related to EDs (Boone et al., 2010; Boone, Soenens and Braet, 2011; Boone et al., 2012). The 2012 study found that fluctuations in EC co-varied with fluctuations in ED symptoms, adding weight to the notion that perfectionism is a dynamic cognitive phenomenon that is open to change, rather than a stable personality trait. This raises an interesting question about which factors contribute to these fluctuations. It seems that specific dimensions of perfectionism, as opposed to a broader definition of perfectionism, are associated differentially with EDs. Could this also be the case for other mental health problems, requiring more sensitive and sophisticated assessment tools to elucidate this relationship?

#### *Factors mediating the influence of perfectionism on EDs*

Some studies have specifically discussed the possible role of factors which might mediate the influence of perfectionism on ED psychopathology, namely, the role of paternal parenting, self-esteem, and BMI. Two studies discuss the role of fathers in EDs: Canals, Sancho and Arijia (2009) found that fathers' perfectionism was a risk factor for child EDs, and a review by Gale, Cluett, and Laver-Bradbury (2013) concluded that maladaptive perfectionism increases the risk of ED in the presence of paternal psychologically-controlling behaviours. Three studies provided support for the idea that self-esteem has a central role in mediating the relationship between high perfectionism and eating disorders/overvalued ideas about shape and weight (Kovacs, Mahon and Palmer, 2002; Westerberg-Jacobson, Edlund and Ghaderi, 2010; Wade and Lowes, 2002).

#### **Obsessive Compulsive Disorder**

High levels of perfectionism have been found to be a risk factor for OCD (Cassidy, Allsop and Williams, 1999); and correlate with obsessive-compulsive behaviours in children with ADHD (Arnold et al., 2005), ASD (Greenaway and Howlin, 2010), sub-clinical obsessive-compulsive behaviour (Frost et al., 1994), OCD and chronic tic disorder (O'Connor, 2001). A study of the child version of the Obsessive Beliefs

Questionnaire identified perfectionism as a key factor present in OCD (Wolters et al., 2011).

In terms of the role of specific dimensions of perfectionism in OCD, to the author's knowledge, only two studies have explored this with children. Libby et al. (2004) found that Concern over Mistakes was the only dimension of perfectionism associated with OCD. This is supported by Ye, Rice and Storch (2008) who found that perfectionism accounted for significant variance in OCD symptoms, with sensitivity to mistakes identified as the most salient perfectionistic aspect.

### **Perfectionism and other health / mental health problems**

High levels of perfectionism have also been linked with hoarding (Plimpton et al., 2009); school refusal (Atkinson et al., 1989), insomnia (Azevedo et al., 2010), cyclic vomiting syndrome (Ben-Amitay et al., 1998), headaches (Kowal and Prtichard, 1990), and socially problematic expression of anger (Hewitt et al., 2002).

### **Positive aspects of perfectionism**

There exists a vast literature examining the positive role of perfectionism in gifted students and athletes. While this review has not included these articles, it is important to note the potential for certain types of perfectionism to have a positive influence on people's lives, as this may be useful in the treatment of people with mental health problems where maladaptive perfectionism is identified as a maintaining factor. For example, Self-Oriented striving (as opposed to critical) perfectionism has not been linked with distress (O'Connor, Rusmassen and Hawton, 2010), and adaptive perfectionists have been found to have higher satisfaction with life and lower depression levels than maladaptive and non-perfectionists (Wang, Yuen and Slaney, 2009). High personal standards have been found to predict academic achievement and higher self-esteem (Accordino, Accordino and Slaney, 2000), which has important implications for treatment, as perfectionistic people may not wish to become non-perfectionist, and it seems from the literature that aiming for an adaptive, striving, but non-critical type of perfectionism may be preferable, in terms of outcome.



## TREATMENT OF CHILDHOOD PERFECTIONISM

Results from the child and adolescent literature replicate those of the adult literature, citing high perfectionism as impeding treatment outcome. High perfectionism is associated with non-response to treatment for depression and suicidality (Jacobs et al., 2009; O'Connor et al., 2007); non-school attendance at six-month follow-up of trial for CBT for Chronic Fatigue Syndrome (Lloyd et al., 2012); and longer duration of illness (Nilsson, Sundbom and Hagglof, 2008; Phillips et al., 2010).

In contrast with the plethora of correlational studies examining the role of perfectionism in childhood mental health problems, there appear to be few treatment studies, with only seven being identified.

These articles vary considerably in terms of their methodological quality.

### *Case studies*

Two case studies were identified (Ashby, Kottman and Martin, 2004; Daigneault, 1999). Neither used outcome measures to monitor treatment effectiveness, although the former authors recommend assessing perfectionism through observation of play, and parent reports. Both studies describe the use of narrative and creative play therapy techniques to support children to:

- recognise self-defeating themes in play and begin to shift their behaviours
- learn to moderate their reaction to perceived criticism
- externalise and restructure cognitions
- expand choice of play materials
- readjust attitudes to cleanliness and order
- promote risk-taking and mistake-making

As is generally accepted in work with children/adolescents, both papers recommend liaison with parents and teachers.

While these papers have obvious methodological limitations, the above goals for therapy accurately reflect many of the dimensions of perfectionism that have been described in the present study. They address parent behaviours that might maintain perfectionism, high personal standards, concerns about mistakes and doubts about actions, non-display of imperfection, organisation/compulsiveness, contingent self-esteem, and negative automatic thoughts. Addressing these

maintaining factors through play seems a developmentally appropriate approach, for which further, more scientifically rigorous study is recommended.

### *Quasi-Experimental Trials*

Three trials of group-based interventions were identified:

1. Essau and colleagues (2012) conducted a large-scale (n=638) evaluation of the FRIENDS Programme (Barrett and Turner, 2001, cited in Essau et al., 2012). This universal, preventative, CBT-based anxiety-reduction programme was evaluated using the CAPS, amongst other measures. The study found that children who participated in the FRIENDS Programme exhibited significantly lower perfectionism, anxiety, and depression scores than children in the control group. This was maintained at 12 month follow-up. As expected from the evidence outlined earlier relating to the influence of perfectionism on treatment outcome, the authors found that lower baseline perfectionism predicted better treatment outcomes.

2. In another large study (n=258), McVey et al. (2004) evaluated the effectiveness of a life-skills promotion programme (Every Body is a Somebody), designed to improve body image satisfaction and self-esteem, while reducing negative eating attitudes and perfectionism. While the group had a significant short-term influence on body image satisfaction, self-esteem and eating attitudes, there was no significant influence on perfectionism as measured by the CAPS. The gains were not maintained at follow-up.

3. The only study found which directly addressed perfectionism was a controlled comparison study (n=127) by Wilksch, Durbridge and Wade (2008). Students took part in an eight-week eating disorder prevention programme, and were randomised to either a programme targeting perfectionism, a programme targeting media literacy, or a school-as-usual control group. The perfectionism group had a significant effect on Concern over Mistakes and Personal Standards, which seemed to particularly benefit participants with high levels of shape and weight concern. The perfectionism group included psychoeducation about perfectionism, weighing up the advantages and disadvantages of adaptive and maladaptive perfectionism, considering maintaining factors, challenging thinking, and changing behaviour.

### *Randomised Controlled Trials*

Two RCTs were identified (Mitchell et al., 2013; Nobel, Manassis and Wilansky-Traynor, 2012) where perfectionism was discussed as an outcome. Both studies examined the results of relatively small ( $n = 67$  and  $78$ , respectively) group-based CBT programmes focussing on anxiety management. Mitchell et al. reported significant reductions in both SOP and SPP following treatment, and Nobel and colleagues reported reductions in SOP only. Both studies discuss the impact of pre-treatment SOP on treatment outcome, in that SOP negatively influenced post-treatment anxiety and depression symptoms.

## **DISCUSSION**

This review highlights that the literature relating to perfectionism in children is lagging behind adult perfectionism research, in terms of quantity and quality.

### *Phenomenology and development of perfectionism*

It is clear that there is a wealth of studies examining the correlates of perfectionism. This provides rich data upon which to base further studies of assessment measures, and treatment of perfectionism. The future direction of research into perfectionism in children should now move away from correlational design, towards more experimental, longitudinal, and treatment studies, to test the theories which have now been set out as a result of the correlational studies. Many of the correlational studies suggested that there may be a third, mediating factor (or factors) in the relationship between perfectionism and mental health problems (such as self-esteem, rumination, and parent factors). It is important to investigate this with further, non-correlational research.

Several studies to date have highlighted possible gender and culture differences in the development of perfectionism, and its differential influence on psychopathology. Future researchers should consider gender and culture differences. Linked to this, there was also a tendency to combine eating disorders into a single category. There are some indications that different dimensions of perfectionism are associated differentially with bulimia and anorexia, suggesting that these should be studied as distinct disorders in the context of perfectionism research.

### *Assessment of perfectionism*

There is a range of tools for clinicians and researchers to choose from when assessing perfectionism in children. While this choice is useful, it presents a problem when amalgamating the research and testing theories. Different measures appear to measure similar concepts, which suggests it would be useful for the authors of the key measures (i.e. Flett, Hewitt and colleagues; Rice, Preuser and colleagues; and Frost and colleagues) to collaborate to develop a single tool which measures the dimensions of perfectionism indicated by the current literature.

A key drawback to almost all of the measures reviewed in the present paper is that there are almost no validation or factor analysis studies by independent authors. This means that many of the research papers about assessment measures are subject to a high risk of bias.

### *Treatment research*

It seems striking that the literature search revealed such a vast number of correlational studies examining the relationship between perfectionism and psychopathology, but a comparatively small number of articles exploring treatment options for perfectionism in children and adolescents. It seems that perfectionism is likely to be a prominent feature in many children and young people presenting for treatment, so it would be useful for clinicians and researchers to contribute to the evidence base for the treatment of perfectionism as a trans-diagnostic concept. All of the non-case study-based treatment articles involved preventative programmes with non-clinical populations, so it would be useful for future studies to explore the treatment of perfectionism within the context of mental health problems.

Additionally, only two of the treatment studies discussed in this review (Ashby, Kottman and Martin, 2004; Wilksch, Durbridge and Wade, 2008) appeared to directly target the underlying phenomenology of perfectionism, described in the assessment and development sections of this paper. It would be useful for future studies to test the dimensional models of perfectionism by tailoring treatments to directly address the factors which are proposed to contribute to the development and maintenance of perfectionism, including parent factors, which are heavily addressed in the literature, but seem to be almost ignored in the treatment

literature to date. Shafran and Mansell (2001) describe adult perfectionism as *“notoriously difficult to treat”* (p.900), therefore longitudinal studies of the impact of parenting interventions specifically targeting parent perfectionism and other parenting factors linked with child perfectionism would be useful. In addition, it seemed from the available literature that Self-Oriented-Critical and Socially-Prescribed Perfectionism were particularly damaging, in terms of their association with psychopathology. However, encouragingly it seemed that some forms of perfectionism were positive and protective against mental health problems, suggesting that interventions targeting SO-critical P and SPP, aiming at gently supporting clients towards developing SO-striving, adaptive perfectionism may be helpful.

Due to the scarcity of treatment literature, research at all levels (e.g. case studies with suitable outcome measures, quasi experimental studies, and randomised controlled trials) will bring new insights to the treatment of perfectionism, and the impact of this on psychopathology.

## **CONCLUSION**

This study presents the results of a literature search pertaining to the development, assessment, and treatment of childhood perfectionism. The review revealed a wealth of correlational studies examining the link between perfectionism and mental health problems. However, causation cannot be inferred from correlation, therefore other research methodologies must be used in future research to investigate the mechanisms behind this relationship. Much of the research into the development of perfectionism highlighted a central role of parental anxiety and parent-child relationships. However, the sparse treatment literature did not, on the whole, reflect this, focussing instead (generally) on group-based general CBT or educational programmes. Future research should focus on developing and testing treatment models for perfectionism, based on its underlying phenomenology. Clinicians should be aware of the role of perfectionism in psychopathology and its negative impact on treatment outcome. Clinicians should consider addressing perfectionism during therapy, and publishing such cases, as they would add valuable knowledge to the empirical understanding of perfectionism in children.

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## **Service Improvement Project**

**Title of report:** Improvement assessment of trauma in looked after children

**Author:** Charlotte Morris

**Contact details:** Department of Clinical Psychology, 6W 0.9

University of Bath

BA2 7AY

Email: [lottie.morris@nhs.net](mailto:lottie.morris@nhs.net)

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**Internal supervisors:** Dr Joanna Adams

Professor Paul Salkovskis

**Field supervisors:** Andrew Lister

Dr Richard Meiser-Stedman

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### **ABSTRACT**

Many children who are looked after by the state have experienced adverse and traumatic life circumstances prior to being removed from their biological parents. In addition, being taken into care itself could also be experienced as traumatic. Local authority care is often preceded by long-term hardship, potentially rendering children more vulnerable to developing psychopathology following stressful life events. The present study investigated the feasibility of assessing post-traumatic stress disorder (PTSD)-like symptoms and through this the prevalence of PTSD-like symptoms in looked after children, and the impact of introducing a PTSD screening tool (Child Revised Impact of Events Scale; CRIES) on referrals to Child and Adolescent Mental Health Services (CAMHS). The psychometric properties of the CRIES were similar to those found in a previous study assessing PTSD following a single-incident trauma, and prevalence of PTSD-like symptoms was found to be extremely high, 75% among respondents. The screening tool did not have a clearly identifiable impact on referrals to CAMHS. Recommendations are made for clinical practice and further research.

### **INTRODUCTION**

#### *Post-Traumatic Stress Disorder (PTSD)*

DSM-V defines trauma as an event or events involving a perceived threat to life or physical integrity, and intense fear, helplessness or horror (APA, 2013). The key symptoms of PTSD for this diagnosis are re-experiencing symptoms (e.g. flashbacks, nightmares); avoidance of reminders of the trauma; hyper-arousal; and emotional numbing. The DSM criteria for PTSD include in the “associated and descriptive features” a subtype called “Disorder of Extreme Stress, Not Otherwise Specified” to capture the additional psychological consequences of prolonged or multiple traumatic events.

#### *PTSD in LAC*

By definition, many children requiring care from the state (termed Looked After Children (LAC) in England) have experienced circumstances which most people would agree are likely to be experienced as traumatic. Indeed, it is likely that some children will have had experiences where they believed they or those they love

were going to die or be seriously injured. It is less clear whether “threat to life” should include threat to one’s hoped for life and more general emotional and physical safety, and whether “physical integrity” should include mental and emotional integrity. In an apparent paradox, a child could also experience being removed from their parents as a safety measure traumatic in the context of intrinsically traumatic situations, but former aspects would not fit with the current DSM notion of trauma.

Despite the prevalence of trauma and long-term experience of adversity in LAC there are surprisingly few studies of PTSD in this context. Many studies appear to have used broad mental health assessments, such as the Strengths and Difficulties Questionnaire (e.g. Egelund & Lausten, 2009), which don’t capture specific dimensions of PTSD symptomatology. Prevalence rates of PTSD in LAC range from 22% (Chambers et al., 2010) to 71% (Sadowski et al., 2003). Interestingly, in the Sadowski study, PTSD was the most highly prevalent of all reported mental health problems, with 67% of children reporting depression, 62% separation anxiety, 38% general anxiety, 33% social phobia, and 29% reactive attachment disorder. This corresponds with a large study by Ford et al. (2007), which found that PTSD was 19 times more prevalent in LAC than in the general population.

## **Traumatic experiences and emotional distress in Looked After Children**

### *Prevalence of traumatic experiences*

Chambers et al. (2010) suggest that LAC are more likely than those in the general population to have experienced detrimental life conditions such as family poverty, parental mental illness, domestic violence, and parental substance abuse. Indeed, statutory services do not enter into child protection proceedings and removal of children lightly: LAC will, by their very nature, have experienced or been at serious risk of significant harm (i.e. physical, emotional, or sexual abuse, or neglect). The authors also discuss the traumatic nature of removal from one’s birth family. NSPCC data (2012) suggests that 50% of LAC are likely to have experienced abuse or neglect. The study by Chambers et al. (2010) of 52 LAC found that 69% had experienced neglect, 48% physical abuse, 37% emotional abuse, and 23% sexual abuse.



### *Prevalence of mental health problems in LAC*

Given the circumstances surrounding being taken into care, it is not surprising that LAC experience substantially higher levels of psychological distress than children in the general population (e.g. Burns et al., 2004; Ford et al., 2007; Harman, Childs and Kelleher, 2000; Minnis and Del Priore, 2001; Tarren-Sweeney, 2008). Studies have found that 48% (Burns et al., 2004) to 69% (Sawyer et al., 2007) of LAC present with clinically significant emotional and behavioural problems. As well as affecting everyday functioning and quality of life, left untreated, these mental health problems are likely to worsen outcomes for LAC, for example, leading to placement breakdown (i.e. the foster placement not lasting, often leading to the child being placed with multiple sets of carers) and a spectrum of difficulties in the education system: from concentration difficulties to truancy to permanent exclusion (Kerker & Dore, 2006).

### **Treatment of PTSD in LAC**

Unfortunately, it seems that many LAC do not receive NICE-recommended psychological therapies for the emotional distress resulting from their traumatic experiences. Some papers discuss the barriers which exist to LAC accessing mental health services:

*“narrow referral criteria, non-detection of mental health problems, referrer’s reluctance to pathologise children’s behaviour, high levels of morbidity among children, difficulties in gaining children’s engagement with therapies, and limited resources (Hatfield et al., 1996; Minnis and Del Priore, 2001)”*

(Cited in Callaghan et al., 2003, p.51)

The desire to hold back from diagnosing mental health problems in children who have experienced serious and usually adverse circumstances is understandable. Those responsible for or involved in their care are mindful of the idea that the child’s reactions are proportionate to their circumstances; however, PTSD can in some senses be regarded as a normal reaction to abnormal situations, making it different from other psychiatric diagnoses (such as conduct or emotional disorders).

### *NICE Guidance*

The NICE (2005) guidelines for childhood PTSD, including repeated incidents, recommend trauma-focussed Cognitive Behavioural Therapy (CBT). NICE

recommend that healthcare professionals should extend the number of sessions and integrate CBT into an overall care plan for people who have experienced

*“multiple traumatic events, traumatic bereavement or where chronic disability resulting from the trauma, significant comorbid disorders or social problems are present”.*

(NICE Full Clinical Guideline, 2005, p.64)

Controversy regarding whether PTSD is a valid and useful conceptualisation of the reaction many LAC children have to prolonged abuse and/or neglect will be discussed later.

## **Screening tools to improve mental health assessment and subsequent treatment**

### *Screening tools aid assessment*

Comprehensive mental health assessment is recommended for all LAC, particularly incorporating investigation of attachment and trauma (Cross, 2012). Leslie et al. (2005) and Tarren-Sweeney (2008) suggest that clinical judgement in such assessments should be augmented with the use of screening tools – they recommend that consistent use of such questionnaires will lead to more accurate and effective assessments. In addition, Chambers et al. (2010) suggest obtaining information from the child themselves, as caregiver descriptions might be inaccurate due to their relationship with the child, and how long they have known the child. Indeed, perhaps it should not only be children presenting behaviourally as being distressed who should be targeted: Golding (2010) describes types of children who tend to hide emotional distress: the “closed book children” (Schofield, Beek, Sargent and Thoburn, 2000), and “too good to be true children” – perhaps screening tools will help to give these children a voice and open access to treatment. Screening tools would certainly help to address some of the barriers listed above.

### *The potential utility of a PTSD diagnosis*

Screening tools assisting clinicians to accurately diagnose psychopathology can be useful in securing access to treatment services. For example, Tarren-Sweeney (2009) found that LAC were twice as likely to have received support from mental health services if they had a diagnosed mental health problem (67% vs. 32%). While there is controversy about the ethics of labelling children, the label of PTSD

(compared to some other, more controversial mental health diagnoses) seems to provide a good and relatively stigma-free functional description or formulation of a child's problems. Studies have found significant overlap between manifestations of PTSD and conduct disorder (e.g. Steiner, Garcia & Matthews, 1997), and Kerker and Dore (2006) note that children with conduct problems have difficulty accessing services: perhaps if their behaviour was instead conceptualised in terms of PTSD, this would open doors. Indeed, Poyser (2004) asks whether LAC who are labelled with "behavioural problems" by carers and professionals are in fact suffering with PTSD. Dann (2011) suggests that conceptualising LAC's conduct problems within the context of previous trauma would help teachers and other professionals to understand their behaviour better.

### **Improving assessment of trauma in a city-wide LAC service**

The present study involved a city-wide, specialist multidisciplinary LAC service, funded to work in a consultative capacity to support the mental health of LAC. The service works with the carers of children and young people who have been identified by their social worker or health professionals as experiencing mental health difficulties. When the service was commissioned, it was expected that around 90% of the children and young people under the care of this service would be referred to Child and Adolescent Mental Health Services (CAMHS) for psychological therapies. However, anecdotal data from the service suggested that only around 30% of referrals to CAMHS from this service were being accepted.

Indeed, clinicians reported that many of these children and young people seemed to suffer with symptoms of trauma, but were not treated by CAMHS as they were deemed either too complex, or not to meet diagnostic criteria for a named mental health condition: similar reasons to the barriers outlined earlier in Callaghan et al. (2003). Therefore, it seems likely that a significant number of vulnerable children and young people were experiencing barriers to accessing relevant services which can provide therapies for psychological distress resulting from trauma.

In collaboration with the service, with the aim of increasing appropriate access to CAMHS for people with post-trauma symptoms, the research team identified and implemented a brief PTSD screening tool, and assessed:

1. Of the children and young people within the service, what proportion screen positively for symptoms of PTSD?
2. To what extent does implementing a brief screening tool for PTSD symptoms increase:
  - a. The number of referrals to CAMHS
  - b. The acceptance of referrals by CAMHS

## **METHOD**

### *Design*

A screening tool for PTSD was implemented for a three-month period. The researcher audited the number of CYP screening positive for PTSD, and referrals to CAMHS pre- and post-implementation of this measure.

### *Participants*

The screening tool was sent to the carers of all service users aged eight and over within the service's current caseload, which consists of LAC who have been identified by their social worker or another health professional as experiencing mental health difficulties.

### *Measure*

A brief screening tool for PTSD symptoms was identified by the researcher, in collaboration with the service. The tool was identified through a brief literature review and consultation with an expert in the field of childhood PTSD (personal communication, Meiser-Stedman, 2012). The Child Revised Impact of Events Scale-8 (CRIES-8, Yule, 1997) was identified as it has good reliability and validity (Yule, 1997), and has been chosen to be used across CAMHS in England as part of Improving Access to Psychological Therapies. In addition, it is brief, consisting of only eight items, and can be self-completed by children aged eight and above. In consultation with the service's therapy team, additional instructions were given with the CRIES-8 (Appendix B2), in order to make it more relevant to the LAC population and to facilitate self-completion by service users (Table 1). The CRIES-8 is freely available on the Children and War Foundation website, and the authors give permission for it to be adapted, providing that a copy is made available to others on their website (personal communication, Yule, 2014).

Table 1: Table to demonstrate the original instructions which were given with this CRIES-8

Original CRIES-8 instructions	Additional CRIES-8 instructions
Below is a list of comments made by people after stressful life events. Please tick each item showing how frequently these comments were true for you <i>during the past seven days</i> . If they did not occur during that time please tick the 'not at all' box.	Thinking back over your life, there might have been something really upsetting that happened before you came into care, after you came into care, or you might have found coming into care really upsetting and stressful. Below is a list of comments made by people after upsetting or stressful life events. Please put a X for each item showing how frequently these comments were true for you <i>during the past seven days</i> . If they did not occur during that time please put a X in the 'not at all' box.

### *Procedure*

The CRIES-8 was then sent by post to the carers of all CYP aged eight and over within the service, along with a cover letter offering guidance in inviting their child to complete it. If CYP attempted to complete the CRIES-8 but said that they had not experienced any traumatic events, carers were asked to note this on the form and return it by post. Most completed questionnaires were returned by post, however a small number were completed with clinicians during initial assessment appointments. Returned questionnaires were then scored (including information about the threshold suggestive of PTSD) and placed in the child's file, in order that care co-ordinators could incorporate the information into their formulation of the child's difficulties, and take appropriate action. Referral to CAMHS was left to clinicians' judgement.

The number of referrals to CAMHS, and the number of referrals accepted by CAMHS, was audited for nine months prior to, and three months post-implementation of the CRIES-8.

### *Ethics*

The study assessed and approved by the University of Bath Psychology Department Research Ethics Committee, along with the local city council's Research Governance Department.

## **RESULTS**

### *Completion of the CRIES-8*

Of 65 CYP on the service's caseload, two were under the age of eight and therefore were unable to complete the CRIES-8. 28 CYP (43% of the eligible caseload) returned completed questionnaires, one of whom did not complete it, noting that he had not experienced any trauma. The mean age of eligible CYP was 13.6 years (SD=2.8). Those who returned the CRIES-8 were, on average, almost a year older (mean=14.3 years, SD=2.6) than those who did not (mean=13.1 years, SD=3). However, Kendall's Tau found that there was no significant association between age and CRIES total ( $\tau_b=-0.13$ ,  $p=0.35$ ).

### *CRIES-8 Scores*

Figure 1: Distribution of CRIES-8 scores, with the threshold suggestive of PTSD ( $\geq 17$ ) marked with a dotted line

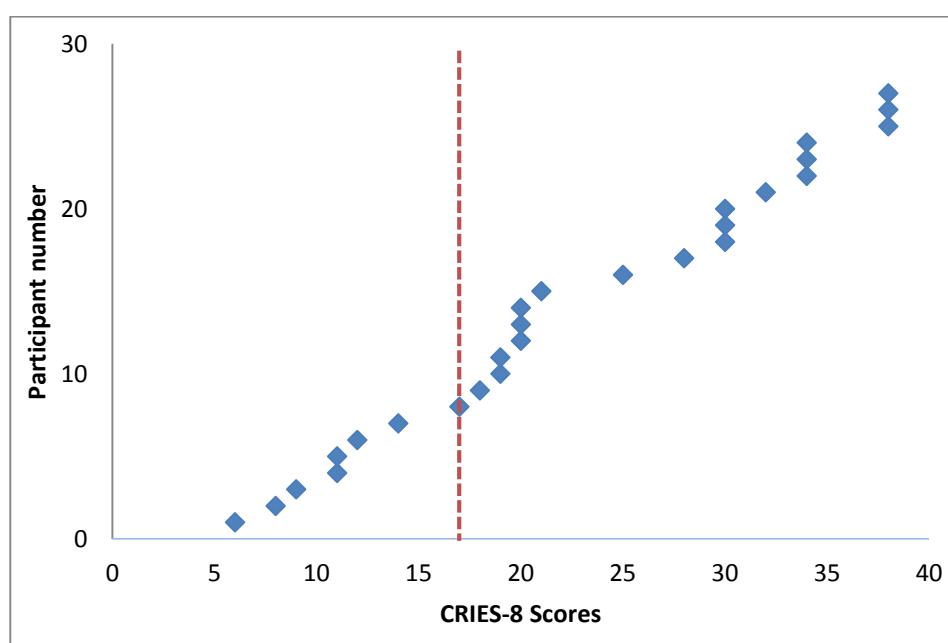


Figure 1 shows that the CRIES-8 scores of those who completed the questionnaire are negatively skewed, with a trend towards higher scores. 75% (n=21) of respondents scored greater than or equal to 17 (the threshold suggestive of PTSD). There was one missing datum in the dataset (i.e. one participant missed out one of the questions), which was substituted with that participant's modal score for the rest of the scale. Participants above and below the threshold suggestive of PTSD scored slightly higher on the avoidance subscale than the intrusion subscale, as shown in Table 2.

Table 2: Mean scores for the intrusion and avoidance subscales of the CRIES-8

	<b>Intrusion subscale mean score</b>	<b>Avoidance subscale mean score</b>
All participants	10.7 (SD=6.6)	12.7 (SD=4.9)
Participants scoring $\geq 17$ on the CRIES-8	13.3 (SD=5.4)	14.7 (SD=3.6)

### *Referrals to CAMHS*

In the nine months prior to implementing the CRIES-8 as a PTSD screening tool, 19 referrals to local CAMHS were made in total for that period, four of which were not accepted. However, Figure 2 demonstrates that, when this is broken down into three-monthly intervals, it was only in the first three-month period that a large proportion (67%) of referrals was not accepted by CAMHS. In the subsequent two three-month periods, 100% of referrals were accepted. The mean age at which children were referred to CAMHS was 11.5 (ranging from 3 to 17).

Figure two shows that, in the three months when the CRIES-8 was implemented, the number of referrals to CAMHS, and the proportion of those accepted by CAMHS, remained stable. The mean age at which children were referred to CAMHS was slightly older: 14.4 (ranging from 7 to 17). Five of the seven CYP who were referred into CAMHS had completed the CRIES-8 (one of the two who did not complete the CRIES-8 was too young). Four of these five referrals scored  $\geq 17$ , as outlined in Table 3.

Figure 2: Graph to show rates of referrals to CAMHS, and the number of referrals accepted by CAMHS, for 9 months pre- and 3 months post-implementation of the CRIES-8

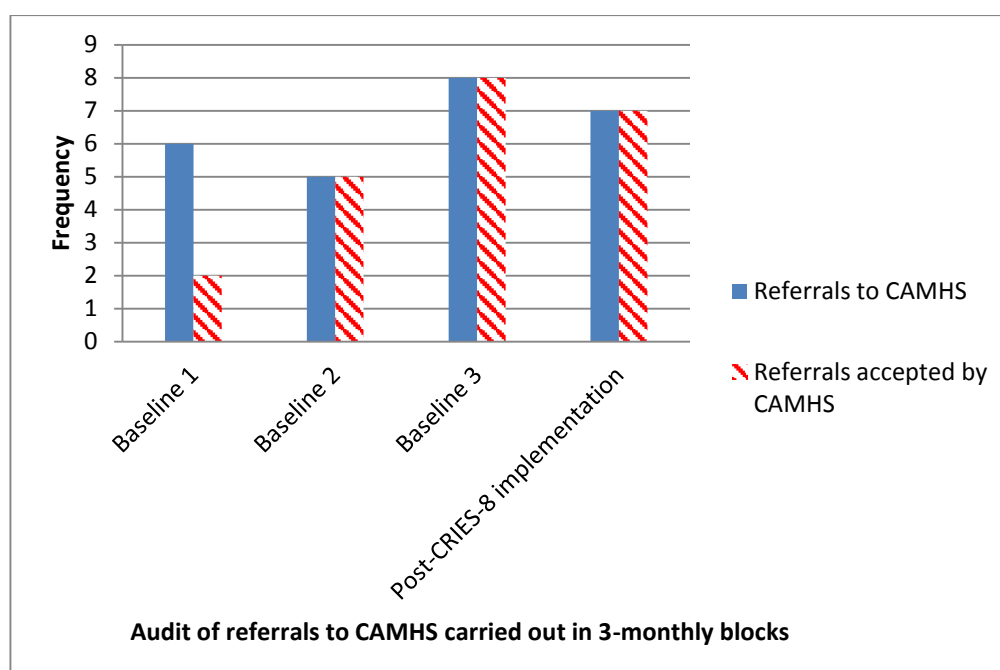


Table 3: CRIES scores of CYP referred to CAMHS (scores  $\geq 17$  are indicative of PTSD, and marked with an asterisk)

Intrusions	Avoidance	Total
14	16	30*
6	8	14
18	20	38*
18	16	34*
20	14	34*

With the exception of the individual who scored 14, these scores are above the mean CRIES-8 scores for those who scored  $\geq 17$  (mean=28.1, SD=7.3).

### Psychometric properties of the CRIES-8

#### *Internal consistency*

Given the modification of the instrument and its use in LAC as opposed to children following a single traumatic event, the psychometric properties of the measure in this sample were reviewed. Cronbach's Alpha was computed using SPSS to assess the internal consistency of the CRIES-8. The alpha coefficient of .803 suggests that the items had relatively high internal consistency. Item-total



correlational analysis suggests that the items “Do you stay away from reminders of it?”, and, “Do you try not to talk about it?” correlated poorly with the total, and that Cronbach’s Alpha would be higher if these items were deleted, as shown in Table 4.

Table 4: Item-Total Statistics for the CRIES-8

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Do you think about it even when you don't mean to?	20.26	69.738	.707	.748
Do you try to remove it from your memory?	19.93	79.225	.417	.797
Do you have waves of strong feelings about it?	19.93	78.610	.571	.773
<b>Do you stay away from reminders of it?</b>	<b>20.33</b>	<b>85.000</b>	<b>.260</b>	<b>.820</b>
<b>Do you try not to talk about it?</b>	<b>19.85</b>	<b>86.054</b>	<b>.285</b>	<b>.813</b>
Do pictures about it pop into your mind?	20.44	77.872	.594	.770
Do other things keep making you think about it?	20.63	68.319	.784	.735
Do you try not to think about it?	19.11	79.564	.566	.775

*Internal consistency of the avoidance subscale*

Cronbach’s Alpha suggested that, for this sample, the internal consistency of the avoidance subscale was weak ( $\alpha = .451$ ). It is likely that this is because the

question, “Do you try not to talk about it?” was very weakly and negatively correlated with the total ( $p = -.118$ ), as highlighted in Table 5. The question, “Do you try not to think about it?” was most strongly correlated with the total ( $p = .571$ ).

Table 5: Item-Total Statistics for the Avoidance Subscale of the CRIES-8

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Do you try to remove it from your memory?	9.48	11.490	.455	.142
Do you stay away from reminders of it?	9.89	14.256	.246	.391
<b>Do you try not to talk about it?</b>	<b>9.41</b>	<b>20.943</b>	<b>-.118</b>	<b>.683</b>
Do you try not to think about it?	8.67	12.769	.571	.089

*Internal consistency of the intrusions subscale*

The alpha coefficient for this subscale was .842, suggesting that this subscale had very high internal consistency. Item-total statistics suggested that all items correlated well with the total, with the exception of “Do pictures about it pop into your mind?”, which had a slightly lower than average correlation (for this subscale) of .566, as shown in Table 6. Perhaps this is because intrusive images are less common, or perhaps the terminology or concept of imagery is harder to understand.

Table 6: Item-Total Statistics for the Intrusions Subscale of the CRIES-8

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Do you think about it even when you don't mean to?	7.78	20.872	.757	.764
Do you have waves of strong feelings about it?	7.44	26.179	.608	.829
<b>Do pictures about it pop into your mind?</b>	<b>7.96</b>	<b>26.729</b>	<b>.566</b>	<b>.845</b>
Do other things keep making you think about it?	8.15	20.823	.796	.744

Overall, the good internal consistency of the CRIES-8 in this study suggests that participants were probably giving careful consideration to the questions, as opposed to answering them arbitrarily.

The present study found similar mean scores to those found by Yule's (1997) analysis of the scores of 87 survivors of the sinking of the cruise ship, Jupiter. Yule found that the 62 children who received a diagnosis of PTSD scored a mean of 26 on the CRIES-8, whereas those who did not meet criteria for PTSD diagnosis scored a mean of 7.8. In addition, the mean score of 23.3 for participants in this study are similar to those found by Perrin et al. (2005) in a sample of children referred to a specialist PTSD clinic, who scored 23.9, on average.

**Note: the findings were fed back to the service; an account of their responses can be found in Appendix B3.**

## **DISCUSSION**

The present study was intended to evaluate: the feasibility of using the CRIES-8 in LAC; the prevalence and level of PTSD-type symptoms; and what impact the introduction of this instrument had on the referral rate from the LAC service to

CAMHS, where appropriate treatment could be offered. Given that this was the first period in which it was introduced, the CRIES return rate of 48% was encouraging. The prevalence rate of above-threshold responses of 75% of the returns suggests high levels of PTSD-like symptoms in this sample of the LAC population. Implementing the CRIES-8 did not appear to have an impact on the rate of referrals to CAMHS, or the proportion of referrals accepted by CAMHS, which both remained stable.

The mean above- and below-threshold scores were similar to a previous study in the context of a life-threatening trauma (Yule, 1997), suggesting that LAC may be experiencing similar levels of post-traumatic symptoms to those CYP. However, no diagnostic interview was conducted to investigate whether those scoring  $\geq 17$  met criteria for PTSD. It is possible that the CRIES-8 was detecting more general patterns of intrusive thoughts and avoidance, as opposed to PTSD.

#### *Referrals to CAMHS*

Implementation of the CRIES-8 appeared to have no influence on the number of referrals to CAMHS, or the uptake of referrals by CAMHS. Given that clinicians were aware of the CRIES-8 scores of their clients, it is interesting that only a small proportion of CYP scoring above the threshold suggestive of PTSD were referred to CAMHS. This warrants investigation, however it is possible that referrals were discussed with the CYP and rejected, or that clinicians felt that their clients were not yet in a sufficiently stable emotional (or physical, in terms of foster placement) state to engage with, and benefit from, CAMHS input. On the other hand, it is interesting that four out of the five CYP referred to CAMHS had amongst the highest CRIES-8 scores of the group.

Additionally, during the conception of this study, the service outlined that only 30% of their referrals to CAMHS were accepted. However, an audit of referrals to CAMHS in the nine months preceding implementation of the CRIES-8 found that, for the first three-month period being studied, only 33% of CAMHS referrals were accepted, but for the second two three-month periods, 100% of referrals were accepted. Data before this period were not available, therefore it is unclear whether the 30% figure was incorrect, or if there had been a substantial increase in acceptance of referrals by CAMHS in recent months.

#### *Validity of CRIES-8 with LAC population*

The CRIES-8 in this study had good internal consistency, with the exception of three items: “Do you stay away from reminders of it?”, “Do pictures about it pop into your mind?”, and “Do you try not to talk about it?”. The reasons for this are unclear; however, given the small sample size, these results may be due to random variation. The validity of this measure with LAC will require further investigation in a larger-scale study.

#### *Limitations*

While 43% of the service’s caseload completed the CRIES-8, this was a small and self-selecting sample. It is possible that the true prevalence of elevated CRIES-8 scores may be higher or lower than reported here, either because people who have not experienced trauma chose not to complete it, or conversely, because those who have experienced trauma did not wish to think about it, or were protected from seeing the CRIES-8 by their carer(s). Also, it is possible that the additional instructions given with the CRIES-8 may have confounded results by encouraging individuals to think about multiple, rather than single, events.

As outlined earlier, due to small sample size and small amount of baseline information, it was not possible to evaluate definitively whether the implementation of the CRIES-8 increased referrals to CAMHS, and uptake of those referrals. However, it appears that the implementation of the CRIES-8 did not affect referral or acceptance rates.

#### *Conclusion and implications of study for healthcare practice*

It is possible that, in this population of LAC being referred to specialist services due to the presence of mental health difficulties, there is a high prevalence of

PTSD. While clinicians reported that using the CRIES-8 as a screening tool was clinically useful and improved identification of possible PTSD, it did not appear to lead to an increase in the number of referrals to CAMHS.

The implications of this project are that a high number of children in Local Authority Care, who present with mental health difficulties, are likely to have PTSD. At present, most of these CYP are not accessing evidence-based therapies for PTSD, and the screening tool did not improve access to trauma-focussed individual therapy. The complex nature of many of these CYP's backgrounds must not be ignored: during the conception of this project, clinicians raised the question of whether trauma-focussed CBT works for people who have experienced multiple traumas, and there was controversy amongst clinicians regarding whether PTSD is a valid conceptualisation of the reaction of children to prolonged abuse and neglect.

### **Clinical framework**

According to the cognitive model of PTSD (Ehlers and Clark, 2000), PTSD arises following trauma because of negative interpretations and beliefs about the event(s), and disrupted cognitive processing of the event leading to it not being stored as a normal autobiographical memory, causing intrusions and hypervigilance. Many people cope with these unpleasant intrusions by avoiding thinking about the traumatic event(s), inadvertently continuing to prevent the cognitive processing of the memory, and maintaining the fragmented, sensory nature of the memory, which will continue to cause intrusions and other PTSD symptoms. Trauma-focussed CBT seeks to provide psycho-education and grounding/relaxation techniques, followed by creating a coherent narrative of the traumatic event, or key traumatic events if they are multiple in nature. This narrative is then elaborated upon and re-told to facilitate cognitive processing of the event(s). Distressing appraisals relating to the event and its consequences are also discussed, with the aim of evaluating whether they are fair judgements (for example, a child might believe an assault was their fault; the therapist would encourage the child to re-appraise this belief).

It is possible, or even likely, that trauma-focussed CBT would not be sufficient for children who have experienced multiple traumatic events, or trauma in the context

of chronic neglect or difficult family circumstances. Judith Cohen's work (for a review, see Cohen, Berliner, & Mannarino, 2010) suggests strongly that adapted trauma-focussed therapies are highly effective for CYP from complex backgrounds who have experienced multiple traumas, with comorbid behavioural and psychiatric problems. They suggest the PRACTICE model (Figure 3).

This multifaceted treatment approach is supported by Golding (2010), who states that it is widely recognised that traditional mental health services do not adequately meet the complex needs of LAC, neglecting to address the interaction between trauma, attachment, and developmental difficulties. Golding suggests that trauma is incorporated into a broader formulation and treatment package, of which individual trauma-focussed CBT or Eye Movement Desensitisation and Reprocessing (EMDR) is a component part.

Figure 3: The PRACTICE model for complex trauma-focussed therapy with CYP (copied directly from Cohen, Berliner, & Mannarino (2010))

<b>P:</b>	Psychoeducation (information about trauma and trauma reactions)
<b>P:</b>	Parenting skills (behavior management skills)
<b>R:</b>	Relaxation skills (managing physiologic reactions to trauma)
<b>A:</b>	Affective modulation skills (managing affective responses to trauma)
<b>C:</b>	Cognitive coping skills (connections between thoughts, feelings, behaviors)
<b>T:</b>	Trauma narrative and processing (correcting cognitive distortions related to trauma)
<b>I:</b>	In vivo mastery of trauma reminders (overcoming generalized fear related to trauma)
<b>C:</b>	Conjoint child-parent sessions (variety of joint child-parent activities)
<b>E:</b>	Enhancing safety and future development (safety planning for future)

### **Future research**

It is recommended that future research in this field targets examining the validity of the CRIES-8 with the LAC population (in terms of whether CRIES-8 scores  $\geq 17$

correspond with a diagnostic screen for PTSD); and also examining the applicability of Ehler's and Clark's model of PTSD within this population: to what extent are the maintaining factors identified in this theory present in LAC with PTSD? In addition, it would be useful to find out how many CYP who screen positively for PTSD have recognisable trauma event(s) in their history. A recent study by Barron and Mitchell (2014) discovered in an audit of LAC's notes that there were an average of nine significantly traumatic events in each child's file. The prevalence of traumatic events for LAC, and their psychological responses to this, appears to be a relatively under-researched area. Given that it is well established that this population experience higher levels of emotional distress, behavioural problems, and social disadvantage, and that many psychological models place adverse early experiences at the root of this (e.g. Beck, 1979; Bowlby, 1977), it is vital that trauma and trauma reactions in LAC receive further attention in the literature.



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## **Main Research Paper**

<b>Title of report:</b>	<b>Is post-stroke depression phenomenologically different in people who have not experienced a previous episode of depression? A pilot study.</b>
<b>Author:</b>	Charlotte Morris
<b>Contact details:</b>	Department of Clinical Psychology, 6W 0.9 University of Bath BA2 7AY Email: <a href="mailto:lottie.morris@nhs.net">lottie.morris@nhs.net</a>
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<b>Field supervisor:</b>	Dr Leon Dysch
<b>Journal submission:</b>	Neuropsychological Rehabilitation: An International Journal

# **IS POST-STROKE DEPRESSION PHENOMENOLOGICALLY DIFFERENT IN PEOPLE WHO HAVE NOT EXPERIENCED A PREVIOUS EPISODE OF DEPRESSION? A PILOT STUDY**

## **ABSTRACT**

Post-stroke depression (PSD) is highly prevalent and influences recovery from stroke. Psychological intervention is a recommended treatment, but the limited understanding of psychological mechanisms underlying PSD means that current guidelines do not recommend specific psychological therapies. Oddly, previous research exploring this area has excluded people with a history of depression. The present study compared PSD in people with (n=9), and without (n=11) a history of depression to determine whether there were differences in PSD phenomenology, in terms of depression profile, lesion location, anxiety and interpretation of performance. PSD appeared to be less prevalent in this study's population than indicated in the literature, leading to the small sample size. Participants with a history of depression were significantly younger and reported more severe depression and poorer quality of life than those for whom this was their first episode of depression. In terms of depression profile, scores on most measures were not found to be different, nor were there significant differences in lesion location between groups. Participants without a history of depression performed worse on the Brixton cognitive task, and in this group, higher health anxiety scores were associated with poorer self-evaluation of performance. As the present study was underpowered, further research with a larger sample is required to explore this more comprehensively, including the addition of qualitative methodology.

***Keywords: post-stroke depression, phenomenology, health anxiety***

## **INTRODUCTION**

### *Post-stroke depression*

Stroke is the leading cause of disability and the third largest cause of death in England (Care Quality Commission, 2011). Post-stroke depression (PSD) affects approximately 40% of survivors (Hackett et al., 2005, Paolucci et al., 2005), impeding quality of life and recovery, and increasing mortality (House et al., 2001; Jonsson et al., 2005). Cognitive Behavioural Therapy (CBT) is currently

recommended by NICE (2009) for depression uncomplicated by chronic health conditions, however CBT for PSD requires further investigation (Kneebone and Dunmore, 2000): results at present are inconclusive (Lincoln and Flannaghan, 2003). Psychological treatment of PSD is currently recommended (NHS Improvement - Stroke, 2011; Department of Health, 2007; Royal College of Physicians, 2008) but the limited understanding of psychological mechanisms underlying PSD means that current guidelines do not recommend specific psychological therapies. In order to apply psychological therapies most effectively to PSD, it is first vital to understand the phenomenology of PSD.

While much research has been conducted in an attempt to understand PSD, largely from a biological perspective (for recent reviews, see Jing and Qi, 2009; and Gaete and Bogousslavsky, 2008), comparatively few studies have focussed on exploring the psychological mechanisms underlying this condition. Studies which have examined the psychological aetiology of PSD have mainly focussed on impact of physical and cognitive consequences of stroke, impact of additional life stressors, and negative beliefs elicited by stroke (summarised in Broomfield et al., 2011), and have been criticised for excluding people with a history of depression (Hackett et al., 2005; Snaphaan et al., 2009).

#### *PSD in people with a history of depression*

A history of prior depression has been found to be an important predictor of PSD (Caiero et al., 2006). This can be explained by the scar hypothesis (Lewisohn et al., 1981), whereby people who have recovered from depression maintain dysfunctional attitudes, a negative attributional style, and negative automatic thoughts as residual, psychological “scars” of depression. These scars then predispose the person to further episodes of depression, when stressful life events cause the dormant beliefs to “flare up”, or become reactivated.

#### *PSD in people with no history of depression*

While previous depression is a predictor of PSD, around 73% of people with PSD have no history of depression (Caiero et al., 2006; Pohjasvaara et al., 1998). This is of interest because first episodes of depression are unusual in older people (Fava and Kendler, 2000) (the average age for stroke is around 69 (Andersen et

al., 1995)). Similar to the scar hypothesis, Beck's influential cognitive model of depression (1967) suggests that distressing beliefs (e.g. "I'm useless", "I must be perfect", "life is hopeless") developed in early life can be activated by later stressful life events. It is likely that most people with PSD have encountered at least one stressful life event by the age they suffer a stroke (Hardy, Concato, and Gill, 2002) (e.g. bereavement, relationship breakdown, significant illness), so, for people with PSD and no history of depression, one of the following theories might explain how PSD developed:

(i) *A pre-existing vulnerability, activated by stroke:*

Prior to the stroke, they were vulnerable to depression because they had already developed distressing beliefs through their early experiences. However, stressful life events prior to the stroke were not sufficiently severe to impact upon their life enough to activate their belief(s). It is possible that, as a significant life event, the stroke impacted on their life substantially, thus activating depressive beliefs developed in childhood; or

(ii) *Stroke as a severe life event which overcomes previous resilience:*

They did not develop distressing beliefs during childhood, but the sheer impact of the stroke led to depression, possibly explainable through a loss/bereavement reaction (Kubler-Ross, 1969), stress-diathesis theory (Rosenthal, 1970), and/or as a way of coping during an emotional adjustment period (Taylor, Todman, and Broomfield, 2011); or

(iii) *Depression occurring as a result of changes in the brain:*

The neuroanatomical impact of the stroke caused PSD. Some studies have found that damage to the left hemisphere, left frontal lobe, and left basal ganglia are related to PSD (Whyte and Mulsant, 2002). This might be because cognitive impairments in domains related to these areas, such as executive function, are related to depression (Broomfield et al., 2010); or due to damage to the neural circuitry responsible for mood regulation (Robinson et al., 1984). It is important to note that reviews have found the relationship between lesion location and PSD to be inconclusive (e.g. Fang and Cheng, 2009). It is also important to note that depression is more prevalent following stroke than after other equally disabling medical conditions such as vascular and cardiac



disease (Rao et al., 2001; Murphy, 1996), suggesting a mechanism specific to stroke, such as the neurological event itself, might be at play.

### *Depression profile*

Activation of depressive beliefs developed through early experiences, stroke as a high impact life event, and lesion location may be differentially implicated in the development of PSD in people with and without a history of depression. A study which lends itself to the psychological, rather than biological hypotheses about the origins of PSD is one by Gainotti et al. (1999), comparing people with PSD and “*endogenous*” (p.163) depression. This study excluded from the PSD group people with a history of depression, and found that those with PSD had lower depressed mood, suicidality, anhedonia, and guilt; and higher anxiety, catastrophic reactions, hyper-emotionalism, and diurnal variations.

Other studies have also suggested higher rates of anxiety (Barker-Collo, 2007), catastrophic reactions (Carota et al., 2001), and health anxiety in PSD (Desmond et al., 2003). If such differences exist between PSD in people with no history of depression, and those with “*endogenous*” depression, it seems likely that there will be similar differences in PSD phenomenology between those with, and without, a history of depression. While differences in hyper-emotionalism are likely to be specific neurological consequences of stroke (Morris et al., 1993), the other differences in depression profile suggest that there may be different mechanisms at play in the development of PSD versus depression, and that these differences may also be apparent between people with PSD with and without a history of depression.

### *Health anxiety and task performance*

Linked to Gainotti’s findings that health anxiety and catastrophisation were higher in PSD than in “*endogenous*” depression, a more recent study (Hayter et al., 2014) found that health-anxious patients with Multiple Sclerosis (MS, a condition that also causes cognitive and physical deterioration) perceived their performance in cognitive and physical tests as worse than it was objectively. Higher health anxiety was also linked in this study to reduced quality of life. Given the similarities between MS and stroke consequences, it is feasible that comparable results might

be found in health-anxious PSD patients who, according to Gainotti, might be more likely to be those who have not experienced depression before.

### *Hypotheses*

Drawing on the evidence set out above, it was hypothesised that PSD in people with a history of depression would show characteristics similar to those reported in depression without a physical trigger, in contrast to those for whom PSD is their first experience of depression, who might have either a more biologically-driven depression and/or more of a health anxiety or adjustment-type reaction.

The primary hypothesis for this study was that people with a history of depression would react more strongly to stroke as a serious life event, and therefore become more severely depressed than those without a history of depression, in keeping with the “already vulnerable to depression” theory above, and Gainotti et al’s (1999) findings when comparing people with PSD with people with “endogenous” depression.

A secondary hypothesis was that people with a history of depression would have:

- more “dysfunctional” assumptions, based on the scar hypothesis; and
- a different depression profile to those with no history of depression, namely higher suicidality and guilt; and lower diurnal variation and hyper-emotionalism (based on Gainotti et al’s findings).

People without a history of depression would be expected to:

- rate the stroke as a more severe life event, linked with the idea that this group of people are presenting with depression due to a loss or adjustment-type reaction;
- have a higher incidence of left, frontal and basal ganglia lesions, in keeping with the neuroanatomical model of PSD;
- have higher levels of anxiety and health anxiety (based on Gainotti et al’s findings);

In addition to these hypotheses, the study also examined the physical and cognitive performance of participants, examining the prediction that those with pre-stroke psychological difficulties will react to the stroke by interpreting their task

performance as worse than those with a history of depression (based on Hayter et al's (2014) findings).

## **METHODS**

### **Procedure**

Stroke patients under the care of two health care services in the South West of England and South of Wales were invited to participate in this study. Participants could be included in the study if they:

- (i) were over 45 years of age (this is above the average age of onset for depression);
- (ii) had suffered a stroke in the last two years and the onset of depression is linked (by clinician and participant, in clinical interview) to the stroke;
- (iii) screened positively for PSD, as measured by a score greater than eight on the Hospital Anxiety and Depression Scale (HADS) (Zigmond and Snaith, 1983), and subsequently were found to meet DSM-IV criteria for depression; and
- (iv) were able to read and communicate expressively and receptively.

People who were experiencing depression immediately prior to their stroke were excluded by those referring into the study, as were people with problematic alcohol or drug use. People with moderate to severe cognitive impairment or dysphasia were not included in the study due to the questionnaire- and interview-based nature of the study. Five people screened positively for depression on the HADS but did not meet DSM criteria when interviewed using the Structured Clinical Interview for DSM-IV (SCID, First et al., 2002). Demographic information and lesion location were gathered from medical records, and each participant completed the measures described below. During the interview, participants were asked if they had ever suffered with depression prior to their stroke. Where possible, this was corroborated with a relative and/or medical records. In two cases this was not possible.

## Measures

### *Depression profile*

The HADS self-assessment scale has been found to be a reliable and valid screening tool in stroke (Aben et al., 2002; Johnston et al., 2000). The authors recommend a score of seven or eight as indicative of possible depression, therefore people scoring eight and above were included in the study. A diagnosis of major depression was then confirmed using the SCID. The Hamilton Rating Scale for Depression (HDRS, Hamilton, 1960) was then used to measure the depression profile (this measure includes questions about suicidality, guilt, and diurnal variation). This scale is widely used in research and practice, and data support its reliability and validity in general (Reynolds and Kobak, 1995) and in stroke research (Abel et al., 2002).

### *Dysfunctional attitudes*

Dysfunctional attitudes were assessed with the Dysfunctional Attitudes Scale (DAS) (Weissman and Beck, 1978), a self-report measure where higher scores denote more dysfunctional attitudes.

### *Impact of stroke as a life event*

The severity of impact of stroke as a life event was measured using Mundt et al's (2002) Work and Social Adjustment Scale (WSAS), which is a brief measure of impairment of functioning. This measure has been used in other studies of stroke (e.g. Hommel et al., 2009). The Quality of Life Index Stroke Version 3 (QLI, Ferrans and Powers, 1992) was also used to provide data on the impact of the stroke. This measure possesses good internal consistency and concurrent validity (Ferrans and Powers, 1985).

### *Anxiety and health anxiety*

The anxiety score from the HADS was used to measure general anxiety levels. The Health Anxiety Inventory – Short Version (HAI) (Salkovskis et al., 2002) was modified for stroke patients with the authors' permission. The HAI has been found to have good reliability and validity (Abramowitz et al., 2006).

### *Hyper-emotionalism*

The Pathological Laughing and Crying Scale (PLACS) (Robinson et al., 1993) was used to measure emotional lability. This scale has been found by the authors to have good reliability and validity.

### *Interpretation of performance experimental task*

A previously validated performance task (Hayter et al., 2014) was adapted and used to assess catastrophic and negative interpretations. The task involved each participant gripping a handgrip dynamometer (a measure of handgrip strength) as hard as possible, and completing a brief cognitive task (The Brixton Spatial Anticipation Test, Burgess and Shallice, 1997), and evaluating their performance immediately after each task, using a visual analogue scale.

### Statistical analysis

Data were analysed using SPSS for Windows version 18.0. Where data met parametric assumptions, t-tests were used, and chi squared analyses were used to determine whether there were statistically significant differences between the two groups ( $\alpha = 0.05$ ). Family-wise error rate for multiple comparisons was controlled for using Bonferroni correction.

The only study which is comparable to this one is Gainotti et al. (1999), which reports neither effect sizes nor means and standard deviations. Thus, it was calculated using GPower that a sample size of 32 would be required for an effect size of 0.8, assuming a Power of 0.7, and setting that alpha level at  $\alpha = 0.05$ .

### Ethics

The study received approval from The University of Bath Research Ethics Committee (reference 14-043), The National Research Ethics Service South Central (Berkshire) Committee (reference 13 SC 0450), The National Institute for Social Care and Health Research (reference 130381), and the hospital Research and Development departments for the two recruitment sites. Informed written consent was obtained from all participants.

## **RESULTS**

### *Sample characteristics*

The sample analysed consisted of 20 participants<sup>1</sup>, all of whom identified themselves as white British. The mean age of participants was 70 years old (range = 45-95, SD = 14), 14 of whom were male and 6 female. According to participants' medical records, a mean of 29 weeks had elapsed since their stroke (range = 3-69, SD = 23). Fifty percent of the sample was prescribed antidepressant medication. The sample was split into two groups: those with, and those without a history of depression. As can be seen from Table 1, there were no noteworthy differences in demographic information between these two groups in terms of gender or antidepressant medication use, however there was a significant difference in age: those with a history of depression were significantly younger than those without ( $t(18) = -2.187, p < 0.05$ ).

Table 1: Demographic participant information

	<b>History of depression (n = 9)</b>	<b>No history of depression (n = 11)</b>
Age*	mean = 63 (SD = 10)	mean = 76 (SD = 14.1)
Gender	67% male, 33% female	73% male, 27% female
Taking antidepressant medication	45%	56%
Weeks since stroke	mean = 25 (SD = 18.3)	mean = 32 (SD = 25)
Hemisphere of stroke	37.5% right 37.5% left 25% bilateral	70% right 20% left 10% bilateral
Location of stroke	Middle cerebral artery (n = 4) Cerebellum (n = 2) Silvian fissure (n = 1) Internal capsule (n = 1) Unknown as did not tolerate MRI (n = 1)	Brainstem (n = 2) Middle cerebral artery (n = 2) Diffuse cerebral aneurisms (n = 2) Parietal (n = 1) Fronto-temporal (n = 1) Unknown as did not tolerate MRI (n = 3)

\* Significant at  $p < 0.05$

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<sup>1</sup> Despite the literature suggesting that 40% of people experience PSD, few people in the services involved in the research met inclusion criteria. 15 other services were approached to extend recruitment, when it was observed that the prevalence of PSD in local services was not as high as suggested in the literature. Four of these services did not have capacity to support research, 10 reported seeing very few patients with PSD, and ethical approval was gained for one service, which did not yield any participants.

### *Stroke-related variables*

There did not appear to be major differences in stroke location between groups, as seen in Table 1. Chi squared was used to examine whether the between-group differences in hemisphere of stroke incidence were significant. Participants whose stroke had caused bilateral damage, and those where the location of their stroke was unknown were excluded from this analysis. There were no significant differences between groups,  $\chi^2 (1, N = 15) = 0.264$ ,  $p = 0.264$ .

### *Depression profile*

Table 2 sets out the differences in mean scores between the two groups for depression severity and profile.

Table 2: Differences in mean scores between groups for depression severity and profile

	<b>History of depression (n = 9)</b>	<b>No history of depression (n = 11)</b>
HDRS total*	M = 22.6 (SD = 4.8)	M = 15.9 (SD = 3.7)
DAS total	M = 35.8 (SD = 9.3)	M = 37.9 (SD = 4.4)
HDRS suicidality	66.4% fell in the high suicidality group	36.4% fell in the high suicidality group
HDRS guilt	77.8% reported feelings of guilt	63.6% reported feelings of guilt
HDRS diurnal variation	44.4% reported experiencing diurnal variation	45.5% reported experiencing diurnal variation
Emotional lability total	M = 12.6 (SD = 15.7)	M = 4.8 (SD = 6.7)

\* *Significant at  $p < 0.01$*

### *HDRS depression severity*

This was the primary variable on which the original study power was calculated. An independent samples t-test was conducted to compare Hamilton Depression Rating Scale scores in participants with, and without a history of depression. Participants with a history of depression scored significantly higher than those without a history of depression,  $t(18) = 3.501$ ,  $p < 0.01$ .

### *HDRS suicidality ratings*

Participants' ratings of suicidality on the HDRS were divided into high and low suicidality, where those reporting no suicidal thoughts, or fleeting thoughts that life is not worth living were placed in the low suicidality group, and those reporting suicide ideation, intent, or attempts were placed in the high suicidality group. A Chi Square Test of Independence was conducted and found that, participants with a history of depression had higher levels of suicidality, but this association was not significant,  $\chi^2 (1, N = 20) = 1.818, p = 0.370$ .

### *HRDS guilt ratings*

As above, participants' ratings of guilt were divided into present and not present, where those falling into the present group ranged in reported levels of guilt from self-reproach to delusions of guilt. There was no significant association between groups,  $\chi^2 (1, N = 20) = 0.471, p = 0.642$ .

### *HDRS diurnal variation in mood*

Chi squared analysis revealed no significant association in diurnal variation between the two groups,  $\chi^2 (1, N = 20) = 0.002, p = 0.964$ .

### *Dysfunctional assumptions*

An independent samples t-test found no between-groups differences in Dysfunctional Assumptions Scale scores,  $t(10.889) = -0.632, p = 0.541$ .

### *Hyper-emotionalism*

Differences in hyper-emotionalism scores between the two groups were not statistically significant ( $t(10.386) = 1.380, p = 0.196$ ). The apparent difference in means between these two groups was due to apparent outliers in the history of depression group.

### *Impact of stroke as a life event*

Table 3 sets out the differences in mean scores between groups for Work and Social Adjustment and Quality of Life. People with a history of depression reported significantly poorer quality of life than people without,  $t(18) = -2.864, p < 0.05$ .



People with a history of depression reported similar WSAS scores than those without; this difference was not significant,  $t(18) = 0.686$ ,  $p = 0.502$ .

Table 3: Differences in mean scores between groups for impact of stroke

	History of depression (n = 9)	No history of depression (n = 11)
WSAS	M = 23.3 (SD = 6)	M = 21.2 (SD = 7.7)
QoL*	M = 14.4 (SD = 3.5)	M = 18.8 (SD = 3.3)

\* Significant at  $p < 0.05$

### Anxiety and health anxiety

Table four shows means scores on general anxiety and health anxiety ratings, and task performance and interpretation. Participants in both groups reported similar scores for general anxiety ( $t(18) = -0.185$ ,  $p = 0.855$ ) and health anxiety ( $t(18) = -0.349$ ,  $p = 0.731$ ).

Table 4: Differences in mean scores between groups for anxiety and interpretation of task performance

	History of depression (n = 9)	No history of depression (n = 11)
HADS Anxiety	M = 10.1 (SD = 4.3)	M = 10.5 (SD = 4)
HAI	M = 11.4 (SD = 6.8)	M = 12.6 (SD = 7.2)
Brixton task performance	M = 4.9 (SD = 2.7)	M = 2.8 (SD = 1.9)
Handgrip performance	M = 19.7 (SD = 15.5)	M = 21.2 (SD = 13.5)
Rating of Brixton performance (out of 20)	M = 6.1 (SD = 4)	M = 7.6 (SD = 5.6)
Rating of handgrip performance (out of 20)	M = 4.9 (SD = 3.8)	M = 6.6 (SD = 3.8)

Table 4 shows there was a non-significant trend for participants without a history of depression to have lower scores on the Brixton task ( $t(18) = 2.032$ ,  $p = 0.057$ ). 73% (n=8) of participants with no history of depression scored in the poor, abnormal, and impaired range, as opposed to just 33% (n=3) of people with a

history of depression. There was no significant difference between groups on the handgrip task ( $t(18) = -0.241$ ,  $p = 0.812$ ). In terms of performance ratings, self-ratings were generally low, and there was no significant difference between groups (for the Brixton ratings,  $t(18) = -0.693$ ,  $p = 0.497$ ; and for the handgrip ratings,  $t(18) = -0.971$ ,  $p = 0.344$ ).

Pearson's correlations found that there were no significant associations between health anxiety, task performance, and performance self-rating across groups. This was the same between groups, except in the no history of depression group, where self-rating of the Brixton task was significantly correlated with health anxiety ( $r = -0.654$ ,  $n = 11$ ,  $p < 0.05$ ): those scoring as more health-anxious rated their performance on this task as worse. There were no significant associations between health anxiety and quality of life in either group ( $r = -0.336$ ,  $n = 20$ ,  $p = 0.147$ ).

## **DISCUSSION**

### **Key findings**

The focus of the present study was to investigate whether depressed stroke survivors, relative to those without a history of depression show differences in the severity and phenomenology of their depression. Although the samples obtained fell far short of those required in the power analysis, the results of the primary analysis indicated that the previously depressed group were significantly more depressed at the time of testing than those who had no history of depression. Quality of life was also found to be significantly lower in participants with a history of depression. Those with a history of depression were also significantly younger than those without. In terms of the profile of symptoms, scores on most measures were not found to be significantly different. Performance in physical tasks was similar between groups, but there was a non-significant trend for participants with no history of depression to score lower on the Brixton task. There did not appear to be a difference between groups in terms of their self-evaluation of performance on these tasks, but in the no history of depression group, higher health anxiety scores were associated with poorer interpretation of performance on the cognitive task.

### Limitations

The key limitation of the study is the small number of participants, which was due to difficulties in recruitment. In spite of the high prevalence of PSD indicated in the literature, many of the stroke rehabilitation services approached about this study reported that they see very few people with PSD, and tend to work only with people with very high levels of cognitive impairment who would have been unable to participate, and with whom it would be difficult to diagnose depression. They suggested contacting mental health services, who reported that they see very few (i.e. only one or two) patients per year with PSD, and suggested the researcher contacted the stroke services. This highlights an important potential gap in service access and provision which warrants urgent investigation. Due to the small sample size, the discussion will consider only those results which are significant, or where there is enough of a trend to justify further consideration<sup>2</sup>.

Concerns were also noted about whether depression is a valid or useful way of conceptualising the emotional distress experienced by participants: many of the diagnostic criteria for depression overlap with common consequences of stroke, such as fatigue, psychomotor retardation, and cognitive disturbance. This difficulty is established in the literature, indeed Hollender (2014) recently concluded that a more definitive definition of PSD is needed.

The study would have been improved by including a control group of non-depressed stroke survivors, and a control group of a comparatively severe and disabling but non-brain-related condition; and a qualitative component would have been useful to explore participants' own beliefs about the aetiology of their depression: many participants commented that they thought it was a natural response to no longer being able to do the things that are important to them, which supports the idea that the poorer quality of life scores may be directly and causally linked with higher depression scores.

### Discussion of findings

The present study set out to build on previous research suggesting that PSD might be qualitatively different to other forms of depression. Biological, cognitive, and

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<sup>2</sup> Non-significant results would not be discussed, if this paper was submitted for publication. Trends are discussed in this version of the paper as points of interest to guide suggestions for future research and possible theoretical implications.

adjustment mechanisms were proposed in the introduction as possible mechanisms for the development of PSD.

### *Depression profile*

Despite the small sample size, the primary hypothesis – that overall levels of depression would be more severe in people with a history of depression – was confirmed. Suicidality was also observed to be higher in this group, although this result was not significant. Quality of life was rated as significantly lower by this group, which could explain the increased level of depression and suicidality. Equally, it could be that participants with a history of depression are perhaps more prone to the negative interpretation bias which is well-established in the depression literature (e.g. Beck, 1967), or it is also feasible that having had a history of depression had affected their overall quality of life (Rapaport et al., 2005). In contrast with Gainotti et al's findings, there were no significant differences in depression profile otherwise between the two groups. This leads the authors to suggest tentatively that PSD profile is broadly similar in people with, and without a history of depression. In addition, perhaps Gainotti et al. found higher depression in the “endogenous” group because they excluded people with a history of depression (and therefore possibly those who were more severely depressed) from the PSD group.

It is notable that participants in the history of depression group were significantly younger than those with no history of depression. This might be because depression is an established risk factor for stroke (Henderson et al., 2013), therefore this group might have suffered the stroke earlier in life.

### *Anxiety, health anxiety and interpretation of task performance*

Both groups had slightly elevated mean general anxiety levels, but mean health anxiety was within the normal range (Salkovskis et al., 2002). Performance interpretation in both groups was generally low. This fits with the cognitive theory that a negative interpretation bias plays a factor in the development and maintenance of depression, and suggests that this is also true for people with PSD without a history of depression. Hayter et al's (2014) findings that increased health

anxiety is linked with poorer interpretation of task performance was replicated in the no history of depression group, suggesting that negative interpretation bias may be a contributory factor to health anxiety in this group.

#### *Impact of the stroke on mood: biological or disabling life event*

While the present study's small sample size is too small to provide a definitive answer to this question, it is interesting that the literature tends to link left hemisphere strokes with PSD. The present study found no significant differences in lesion location, in fact there were more participants with right sided strokes than left or bilateral. This is in keeping with results of some meta-analyses (e.g. Fang and Cheng, 2009) which have found relationships between lesion location and PSD to be inconclusive. While the numbers are modest, this refutes this particular biological hypothesis. While there were no between-group differences in the WSAS, both groups ratings of the impact of stroke on their life fell within the severe range (Mundt et al., 2002). It is reasonable to conclude from this that PSD is an understandable reaction to a highly disabling life event although, as with the QoL scores, participants' WSAS ratings may have been partially influenced by a negative bias.

It is notable that people with no prior history of depression scored substantially lower on the Brixton task, which is a test of executive function. A considerable majority in this group scored within the poor, abnormal, and impaired range whilst the opposite was true for the other group. While this result was not statistically significant, it is consistent with the hypothesis that neurological mechanisms might play a particular role in the development of PSD in people who had previously seemed resilient to developing depression. It is particularly interesting that there may be differences between the two groups, as impaired executive functions have been associated with major depression in the past (Snyder, 2013). This finding suggests that, in the case of PSD at least, executive function impairment might possibly be implicated as a causal factor.

## **Implications for practice**

The recruitment difficulties indicate either that PSD prevalence levels are lower than expected or, more likely, that current screening for PSD is not being undertaken routinely, or that screening tools are not sensitive enough. It also highlights that there may be a gap in current service provision, with staff in stroke services possibly thinking that people with PSD are receiving treatment from mental health services, and vice versa. The Royal College of Physicians' (RCP) National Guidelines for Stroke (2012) recommend screening of all patients for depression and anxiety.

While all conclusions are tentative due to the lack of power in this study, it is likely that people with PSD with a history of depression will present with more severe depression, with possibly higher levels of suicide ideation. Clinicians should therefore be particularly mindful of risk when working with those with a history of depression (although should assess suicide risk routinely, given that suicide risk is doubled in stroke patients (Teasdale and Enberg, 2001), and should consider mental health history early in assessment. These differences in depression severity might be explained by differences in quality of life, therefore it is important to assess the impact of the stroke, particularly whether the areas upon which it is causing difficulty are of personal importance to the individual.

The finding that people with and without a history of depression otherwise had similar depression profiles, levels of anxiety, dysfunctional assumptions, and negative interpretation of task performance suggests that, phenomenologically, there are not major differences in PSD in these two groups. The presence of dysfunctional assumptions and excessively negative interpretations of task performance suggest that negative interpretation bias might be a relevant factor in the development and maintenance of PSD, supporting the notion that it might be amenable to CBT. Professionals involved in rehabilitation after stroke are recommended to be vigilant for dysfunctional assumptions and poor interpretation of task performance impacting on engagement.

## **Research recommendations**

This study requires replication with a larger number of participants; including control groups of non-depressed stroke survivors and people with depression

following non-brain-related but comparatively severe health conditions; and including a qualitative component such as Interpretative Phenomenological Analysis, to explore how stroke patients themselves experience and understand PSD. Researchers should consider including people with a history of depression in PSD research, as it appears that the depression profile is very similar to those with no history of depression. The relationship between health anxiety and performance interpretation should be explored. Perhaps most importantly, the discrepancy between the reported prevalence of PSD and the number of patients presenting in local services with PSD should be investigated urgently.

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## EXECUTIVE SUMMARY

**Is post-stroke depression phenomenologically different in people who have not experienced a previous episode of depression? A pilot study**

### BACKGROUND:

Post-stroke depression (PSD) affects around 40% of people after a stroke, impeding recovery and increasing mortality. It was observed clinically that patients without a history of depression seemed less severely depressed, but more health-anxious than people with a history of depression. All previous research has excluded patients with a history of depression, so this study was conceptualised to test the theory that there might be differences in depression profile between these two groups.

### METHOD:

The present study compared PSD in people with (n=9), and without (n=11) a history of depression to determine whether there were differences in PSD phenomenology, in terms of depression profile, lesion location, anxiety and interpretation of performance. Questionnaires were used to assess depression profile, anxiety, and health anxiety; and participants were also asked to rate their perception of their performance on cognitive and physical tasks. PSD appeared to be less prevalent in this study's population than indicated in the literature, leading to the small sample size.

### RESULTS:

Participants with a history of depression were significantly younger, and reported more severe depression and poorer quality of life than those for whom this was their first episode of depression.

In terms of the profile of depression, scores on most measures were not found to be different, nor were there significant differences in lesion location between groups.

In participants without a history of depression, higher health anxiety scores were associated with poorer interpretation of performance, and this group scored more poorly on the Brixton task. Interpretation of performance was generally low in both groups.

### **IMPLICATIONS FOR RESEARCH:**

- The discrepancy between the reported prevalence of PSD and the number of patients presenting in local services with PSD should be investigated urgently.
- Further research with a larger sample is required to explore this more comprehensively, including the addition of qualitative methodology to explore patients' lived experience of PSD.
- Researchers should consider including people with a history of depression in PSD research, as it appears that the depression profile is very similar to those with no history of depression.
- The relationship between health anxiety and performance interpretation following stroke should be explored.

### **IMPLICATIONS FOR PRACTICE:**

- Difficulties encountered in recruitment for this research suggest that screening for PSD is not being undertaken routinely in local services, and/or that screening tools alone are not sensitive enough. Services should review their use of PSD screening tools.
- It was also highlighted that people with PSD might be falling through gaps between specialist stroke services and mental health services. Locally, these services should consider collaborating to ensure that a clear treatment pathway exists for people with PSD.
- Suicide risk is doubled after a stroke. Clinicians should be aware that people with a history of depression are likely to present with more severe

depression, and possibly also with higher suicide ideation. Clinicians should consider mental health history early in assessment.

- Quality of life is likely to be lower in patients with a history of depression, therefore clinicians should consider this in treatment planning.
- Otherwise, people with and without a history of depression are likely to have similar depression profiles and levels of anxiety. Dysfunctional assumptions and negative interpretation of task performance might well be involved in the development and maintenance of PSD, therefore it might be amenable to cognitive behavioural interventions.

## **CONNECTING NARRATIVE**

### **Development of research questions**

I embarked upon training having had a fairly broad range of past experiences, both clinical and research. I had worked previously in Early Intervention for Psychosis, Child and Adolescent Mental Health Services (CAMHS), Addiction Services, Targeted Mental Health in Schools (TaMHS), and a service for women and children escaping domestic abuse. For this reason, when asked where my research interests lay, I was unsure and wanted to keep my research portfolio reasonably broad, to reflect the wide-ranging nature of my clinical and research interests. The Personal Planning and Training Needs Assessment (PPTNA) was useful in helping me to develop some ideas for potential projects. Through the PPTNA I identified that I would particularly like to develop my skills, knowledge, and understanding of child and adolescent mental health difficulties, and neuropsychology. Having not had much experience of working with adults, it was also important to me to gain in-depth knowledge of the treatment of mental health difficulties in this population.

### ***Critical Review of the Literature***

In order to develop my understanding of the development of psychopathology, I decided that I would be interesting in reviewing traits such as low self-esteem, intolerance of uncertainty, and perfectionism, which seem to be implicated in the development of psychopathology, generally. Given that these types of belief are generally considered to have their origins in childhood, and that comparatively less research has been carried out using child and adolescent populations, I decided that this might be a good place to start exploring.

I had helpful meetings with Professor Paul Stallard and Dr Claire Lomax, who helped to shape my ideas and narrow them down to focus on just one trait. There was already a great deal of literature on self-esteem in children, including some review articles, and intolerance of uncertainty was of less interest to me as it seemed to be implicated only in anxiety disorders. Having carried out a literature search to check feasibility, I decided to investigate the development, assessment, and treatment of perfectionism in children and adolescents, along with a brief review of its association with psychopathology.



### *Service Improvement Project*

During our first year teaching on disorder-specific CBT, we learnt about Ehlers and Clark's (2000) model of Post-Traumatic Stress Disorder (PTSD) and Complex Trauma (Herman, 1992). Having worked with several Looked After Children (LAC) in my previous roles in CAMHS and TaMHS, I found these conceptualisations of trauma reactions incredibly useful and found myself wondering if the behavioural difficulties my clients had presented with could have been safety seeking behaviours, dissociation, and hypervigilance following trauma. A brief literature search revealed a surprising paucity of studies examining PTSD and complex trauma in LAC, so I contacted a local LAC service and arranged to meet with them to discuss ideas.

When I met with the team it was immediately clear that they agreed with the hypothesis that there might be a large number of children within their service who would meet diagnostic criteria for PTSD. The service lead felt that the team of psychologists, psychotherapists, and nurses had a professional development need in terms of learning more about NICE-recommended PTSD treatments (the team presented use an attachment-based consultation model and rarely conduct individual therapies with children). The team also identified that they have difficulties securing individual therapies through CAMHS for the children on their caseload, as they are often deemed not to have a mental health problem, or to be too complex. There was some debate in the team around whether individual therapies such as CBT and EMDR would benefit the children on their caseload, and I had the impression that several therapists were defensive because of their lack of understanding of the specificity of trauma-focussed CBT, rather interpreting it as a very basic therapy, focused on relaxation and thought-challenging.

Despite this resistance from some team members, which seemed to be based on their therapeutic training and allegiance, the team was keen to investigate the prevalence of PTSD amongst children on their caseload, and to see whether a diagnosis of PTSD would improve the rate of acceptance of their referrals to CAMHS. We designed a simple methodology with which to study this, deciding to identify and implement a brief PTSD screening tool, and compare the average proportion of referrals accepted by CAMHS pre- and post-implementing the PTSD screening tool.

### *Main Research Project*

Given that my literature review and service improvement project had ended up focusing on child mental health, an area in which I already had a relatively large background of experience, I felt it was important to use my main research project to create an opportunity to learn about something completely new. As mentioned earlier, I had identified in my PPTNA that I would like to develop my knowledge of Clinical Neuropsychology. Professor Paul Salkovskis told the year group that Dr Leon Dysch (Bath Community Neuro and Stroke Service) was interested in co-designing a study to investigate his clinical observation that depression seems to be qualitatively different in people with a history of depression, compared to those for whom it is their first episode.

This was in keeping with my interests in neuropsychology and with improving my understanding of mental health problems more generally. Having reviewed the literature, I was interested to find that there was no research at all investigating this. I wrote a brief research proposal and, helpfully, the DClinPsy programme staff arranged for me to undertake my Older Adult placement with the Community Neuro and Stroke Service in order to get the project under way. During my placement, I observed a similar phenomenon to the one Leon had described, whereby people without a history of depression seemed to respond rapidly and well to antidepressants, and have more of a health anxiety and overestimation of disability presentation than people with a history of depression. While there were no studies comparing these two groups, one study (Gainotti et al. 1999) had compared people with post-stroke depression (PSD) and “endogenous” depression and found that those with PSD had higher catastrophic reactions and anxiety. Gainotti and colleagues had excluded people with a history of depression from the PSD group, leading us to wonder whether people with PSD who have experienced depression in the past have a presentation more similar to “endogenous” depression.

While on placement, we honed the research idea and selected appropriate measures.

## *Case studies*

The case studies were a useful way of documenting theory-practice links and ensuring that I thought through my use of assessment and outcome measures thoroughly. I tried to ensure on all placements that I had used sufficient outcome measures to enable me to write any case up as a case study, which was a helpful habit to form during training. The exception to this is the case study I wrote for my Clinical Health placement. The Pain Rehabilitation Service tends to run group-based rehabilitation, and I wanted to do a case study examining the therapy process of Acceptance and Commitment Therapy as I was having difficulty with understanding the underlying theory, and felt that many of the processes were repackaged Cognitive Behavioural Therapy. Therefore in this case, with the help of my supervisor, I designed the case study and measures prior to therapy, as the methodology needed to be more sophisticated than the other case studies I had conducted in order to answer the research question.

## **Service user consultation**

Unfortunately, I was unable to consult with or involve service users in any of these pieces of research. This was disappointing because, prior to starting the DClinPsy programme, I had worked closely with service user groups to develop and conduct research and service improvement projects, and this is something which is important to me (as well as a significant priority for the NHS (e.g. Tait and Lester, 2005)). I felt that, perhaps because the DClinPsy programme is a new one, service user consultation was not embedded within the research process. For example, a research fair was held in year one of training, which was attended by all trainees and regional Clinical Psychologists. The psychologists gave brief presentations about their research ideas, and there was then an opportunity for networking and discussing potential ideas. Although this was not how any of my projects were conceived, the process was similar, in that it involved meeting with a clinical psychologist, developing ideas together, and writing a proposal. Unfortunately, none of the services I worked with had an active service user involvement team. In my opinion, for meaningful service user involvement in research, they should be consulted with from the very beginning, in order that their ideas are at the core of any research that is conducted.

I know that programme staff are working very hard to increase service user involvement in the programme, and I imagine that would also extend to research. It would be very helpful to develop networks between the programme and local service user groups, so that in future, they could attend the research fair and play a lead role in evolving research ideas with trainees and local services.

## **Ethics and R & D clearance**

### *Main research project*

I sought ethical approval for my main research project through IRAS. This process was reasonably simple, and I had experience of independently seeking IRAS approval twice before in previous jobs, so the time-consuming process did not come as a surprise. R & D approval from Sirona Care and Health (a third sector organization which provides NHS services in Bath) was also straightforward, although took a long time to obtain. With the benefit of hindsight, I would have spent much less time conceptualizing the study and holding meetings about the methodology, and submitted proposals to IRAS and R & D in year one, if I were to do this again.

### *Service improvement project*

Unfortunately, my experience of applying for ethical approval to carry out the service improvement project was not so straightforward. Given that the service I was working with was a team of health professionals, jointly funded by the NHS and Social Care, but housed within Bristol City Council's Social Care Department, the first dilemma was finding out who to contact regarding ethical approval. Eventually, after many emails and phone calls, I found out that the person I needed to speak with was the Information Officer within the Commissioning Department. We had a difference of opinion regarding whether the project constituted research, service evaluation, or audit. I had identified the Child Revised Impact of Events Scale (CRIES-8) as a brief screening tool for PTSD, and the service had committed to using this as part of their assessment battery. The service and I, therefore, felt that the proposed project constituted an audit, because it would be measuring data that are already gathered routinely: the

CRIES-8 scores, and uptake of referrals by CAMHS. After lengthy discussions between myself, my supervisors, and the Information Officer, she agreed that the project could go ahead, providing it received ethical approval from the University of Bath. This, unfortunately, took three months because the University Ethics Committee members were on holiday and sharing Committee Chairship over the summer months, and so my application fell between the gaps as no-one specifically had responsibility for it.

## **Data collection**

### *Service Improvement Project*

Once I had received ethical approval from the University Ethics Committee, data collection was relatively straightforward because staff within the Looked After Children's Service were, by this time, excited to learn the results of the study, and had already found the CRIES-8 to be a highly useful clinical tool. They leapt into action as a team, sending out the questionnaire to all appropriate service users, and supporting and encouraging carers to help their children to complete it. Within the specified three months of CRIES-8 implementation, 43% of children on the caseload had completed and returned the screening tool.

### *Main research project*

The literature suggests that post-stroke depression occurs in around 40% of stroke survivors (Hackett et al., 2005), and every person in the Bath and North East Somerset region who survives a stroke is reviewed at several time points by the Stroke Service, including a screen for depression. Given that around 3,488 people per year suffer from a stroke or transient ischaemic attack (TIA) in the region (Bath & North East Somerset Council data, 2012-13), it was therefore assumed that recruiting 28 participants in seven months would be feasible.

Recruitment was slow from the beginning of the project, and we found that very few people within the service were screening positively for depression. The vast majority of those who were depressed consented to take part in the study. Some people who were thought by clinicians to be depressed were unable to participate due to severe cognitive impairment or aphasia. Several potential participants who were indicated by the Hospital Anxiety and Depression Scale (HADS) as being depressed did not meet DSM-V criteria for a depressive episode, bringing into question the validity of the HADS.

Two months into the study we decided to explore the possibility of extending recruitment to other sites. I contacted a number of other stroke services in the South West of England, as outlined in Appendix 1.

As Appendix 1 demonstrates, I contacted a considerable number of other services to enquire about extending recruitment. However, the vast majority of these services were unable or unwilling to support the research, due to two recurring factors:

1. Lack of staff resources to support research (most of the psychologists I spoke to were working in stroke for 0.5 – 1 day per week, carrying a large caseload of cognitively impaired clients)
2. An apparent lack of people with post-stroke depression

Two key recruitment sites which are known by professionals to see a lot of people suffering with PSD, Salisbury District Hospital and Bristol Area Stroke Foundation, were unable and unwilling, respectively, to assist in recruitment. Professor Paul Salkovskis is in dialogue with Salisbury District Hospital R & D department about this, because according to the university's contract with local NHS services, students should be allowed to conduct research there under an honorary contract. However, these discussions are likely to take many months so did not benefit this piece of research.

After exhausting local avenues for extending recruitment, I was put in contact with Dr Jimmy Jones at St Woolos Hospital, Newport, Wales, by Professor Reg Morris. After applying for R & D approval, I was fortunately able to recruit from this site, although the number of participants remained low due to time constraints (it had taken a long time to find a service willing and able to assist, and to obtain ethical approval to recruit within Wales, which has a slightly different system to England), meaning that the study was under-powered.

## **Outcomes of research**

### *Publications*

I am delighted to have already published three papers: two of my case studies, and my literature review. I have also presented three papers at national and

international conferences, and have been invited to present the results from my SIP at an international workshop on child maltreatment in Jerusalem.

#### *Implications for career and future practice*

Having enjoyed each placement during training immensely, I am in the fortunate position of being keen to pursue a very wide range of jobs. The breadth of my research portfolio supports this, as the differing topics will be applicable to a variety of fields. I will be starting a job working in Psycho-Oncology upon completion of my doctoral training. I feel that the variety of research I have carried out stands me in good stead to be able to continue conducting original research, case studies, audits, and service improvement within this new setting.

#### **Plans for future involvement in research**

When I embarked upon training, I outlined in my application form how important it is for me to be guided by the evidence base, and also to contribute to it. I have succeeded in doing both of these things during training, and I am committed to continuing to do so once I am qualified. I understand that many psychology job plans in the NHS no longer include time for research. However, research is an essential part of my scientist-practitioner role, and I will use creative means where necessary to enable myself to continue to conduct and publish research.

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## Connecting Narrative Appendix

### Appendix 1: Table to show outcomes for services approached regarding recruitment

Lead	Outcome
Bath Stroke Association	Agreed to refer people into the study via the Community Neuro and Stroke Service, in which one of their staff members is based
Bristol Area Stroke Foundation	Cannot recruit from there because they only allow in-house-commissioned research
Bristol NHS Stroke Services	Cannot recruit from there because they see acute patients only and the psychologist has insufficient capacity to support research
Gloucester, Cheltenham, and Tewkesbury Community Stroke Services	Cannot recruit because the stroke psychologists see few people with low mood, who would be too cognitively impaired to participate. The three community stroke coordinators see 4,500 patients per year and report only around 5 per year having depression (despite using PHQ9 as a screening tool)
Gloucester Royal Hospital Stroke Unit	Cannot recruit because the psychologist does not see many people with PSD, and has no capacity to support research
Chippenham and Swindon Hospital Stroke Units	Cannot recruit because the psychologist does not see many people with PSD, and has no capacity to support research
Royal United Hospital, Bath	Cannot recruit from here because the hospital sees people only at the acute stage, where PSD is very rarely detected
Bath Enablement Service	Cannot recruit because the staff have no capacity to support research
Salisbury District Hospital	This unit sees many people with PSD, and were very happy to support research. Salisbury R & D department do not allow external parties to conduct research at the hospital and would not permit the research to be conducted, on this basis.
Bath Improving Access to Psychological Therapies (IAPT) Service	According to a poll of all staff, IAPT only sees around three people per year with PSD
Bath, Bristol, and surrounding area Older Adult Community Mental Health Teams (OA CMHTs)	According to a poll of all staff, OA CMHTs rarely encounter people with PSD
The Stroke Association	Approval received, but no participants obtained
St Woolos Hospital, Newport (Wales)	Approval received, five participants identified

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## **Research Appendices**

### **(A) Appendices for Critical Review of the Literature**

**Appendix A1: Instructions for authors**

**Appendix A2: Publication resulting from literature review**

### **(B) Appendices for Service Improvement Project**

**Appendix B1: Instructions for authors**

**Appendix B2: Child Revised Impact of Events Scale**

**Appendix B3: Project summary sheet**

**Appendix B4: Information relevant to ethical review**

### **(C) Appendices for Main Research Paper**

**Appendix C1: Instructions for authors**

**Appendix C2: Measures used**

**Appendix C3: Information relevant to ethical review**

## **Appendix A1: Instructions for authors**

### **Child and Adolescent Mental Health author guidelines**

A pre-submission enquiry was made during the conceptualisation of this review. The editors expressed an interest in publishing the article, and advised a word limit of 8000 words, including tables and references. Due to the high number of papers included in the original review, this was edited down to 8000 words post-submission.

#### **Author guidelines:**

The journal accepts review articles, which are usually commissioned; and should survey an important area of interest within the general field.

Manuscripts should be concise and written in a readily understandable style.

A Key Practitioner Message (in the form of 3-6 bullet points) should be given below the Abstract, highlighting what's known, what's new and the direct relevance of the reported work to clinical practice in child and adolescent mental health.

For referencing, CAMH follows the APA style.

# Assessment, development, and treatment of childhood perfectionism: a systematic review

Lottie Morris & Claire Lomax

Department of Clinical Psychology, University of Bath, Claverton Down, Bath, BA2 7AY, UK. E-mail: lottie.morris@nhs.net

**Background:** In the adult literature, perfectionism has been linked with psychopathology and poor treatment outcomes, leading to perfectionism-focussed therapies. The child and adolescent perfectionism literature is comparatively sparse. **Method:** A systematic search of five electronic databases (Web of Knowledge, APA PsycNET, PubMed, ERIC/ProQuest, and Scopus) was conducted to identify studies of perfectionism in children and adolescents, in the context of psychopathology. **Results:** The search identified 133 studies, 84 of which discussed perfectionism as a correlate of mental health problems. These studies were briefly synthesised, with the systematic review focussing on evaluating papers on the development ( $n = 23$ ), assessment ( $n = 19$ ), and treatment ( $n = 7$ ) of perfectionism. **Conclusion:** Treatment studies did not reflect the phenomenology of perfectionism found in this review.

### Key Practitioner Message

- Perfectionism-focussed therapies improve treatment outcome in adults but further research is needed with children and adolescents
- Clinicians should be aware of the role of perfectionism in psychopathology and its negative impact on treatment outcome
- Where perfectionism is highlighted, contemplate targeting this early on in therapy, considering parental factors (pushy parenting style, harsh expectations, parental self-criticism and perfectionism), child factors (self-criticism, self-esteem), and attachment style
- Perfectionism itself can be associated with achievement and emotional wellbeing: aiming towards supporting people to develop striving, adaptive perfectionism may be helpful
- Consider publishing case studies of perfectionism treatment to add valuable knowledge to the empirical understanding of perfectionism in children

**Keywords:** Perfectionism; child; adolescent; mental health; psychopathology

## Introduction

In recent years, the construct of perfectionism has received considerable attention in the literature. Shafran, Cooper, and Fairburn (2002) define 'clinical perfectionism' as

the overdependence of self-evaluation on the determined pursuit of personally demanding, self-imposed standards in at least one highly salient domain, despite adverse consequences (Shafran et al., 2002, p. 778)

The adult literature suggests that perfectionism is implicated in the development and maintenance of a range of mental health problems (e.g. Egan, Wade, & Shafran, 2011), and associated with poor treatment outcomes. Treatment of perfectionism is associated with reductions in psychopathology and improved response to treatment, leading to recommendations that clinicians routinely assess and treat perfectionism in the context of mental health problems (Egan et al., 2011). Fewer studies have examined the role of perfectionism in child and adolescent mental health problems. This review seeks to synthesise the existing literature on perfectionism in the context of child and adolescent psycho-

pathology, with a view to making recommendations for future research and clinical practice.

## Methodology

### Identification of studies

The present review is guided by the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement (Moher, Liberati, Tetzlaff, & Altman, 2009). A search of five electronic databases (Web of Knowledge, APA PsycNET, PubMed, ERIC/ProQuest, and Scopus) was carried out on 9th August 2013. Individualised search strategies for each database were created, using the terms perfectionism AND (infant OR child OR adolescent).

### Inclusion/exclusion criteria

Each article was assessed for inclusion, according to the following criteria: (a) the article was published in English language in a peer-reviewed journal; (b) the article discussed perfectionism, in the context of psychopathology; (c) the article related to under-18s. Studies relating to perfectionism in gifted and talented children and elite athletes, where psychopathology was not discussed,

	The Child and Adolescent Perfectionism Scale (Flett et al., 1997 (in O'Connor, Dixon, & Rasmussen, 2009))	The Perfectionistic Self-Presentation Scale – Junior Form (Hewitt et al., 2011)	The Almost Perfect Scale – Revised (Slaney et al., 1996 (in Rice, Ashby, & Gilman, 2011))
Background	Derived from Hewitt, Flett et al.'s Multidimensional Perfectionism Scale (MPS, 1991). 22-item self-report scale	Developed from the CAPS to encompass broader, empirically grounded dimensions of perfectionism. 18-item self-report scale	Relates closely to definitions by Shafran et al. (2002): maladaptive perfectionism consists of high standards and self-critical performance evaluation
Dimensions	<ol style="list-style-type: none"> <li>1 Self-Oriented Perfectionism (SOP): setting very high personal standards, with non-attainment of goals leading to self-criticism</li> <li>2 Socially Prescribed Perfectionism (SPP): perceiving that others have very high standards for the individual</li> </ol>	<ol style="list-style-type: none"> <li>1 The original CAPS dimensions: SOP, SPP, and Other-Oriented Perfectionism (OOP)</li> <li>2 Interpersonal dimensions: <ul style="list-style-type: none"> <li><i>perfectionistic self-promotion</i> (i.e. showing off one's perfection to others);</li> <li><i>nondisplay of imperfection</i> (i.e. behaviourally concealing one's imperfection);</li> <li><i>nondisclosure of imperfection</i> (concealing one's imperfection by not telling others about it)</li> </ul> </li> <li>3 Cognitive dimensions: information processing factors and negative automatic thoughts</li> </ol>	<ol style="list-style-type: none"> <li>1 Adaptive Perfectionists: elevated High Standards, low Discrepancy scores (i.e. perceives that own standards are being met)</li> <li>2 Maladaptive Perfectionists: elevated High Standards, elevated Discrepancy scores</li> <li>3 Non-perfectionists: average High Standards scores</li> </ol>
Evaluation	Recent studies (O'Connor et al., 2009; McCreary, Joiner, Schmidt, & Jalongo, 2004*) suggest that the CAPS should have three dimensions: <ol style="list-style-type: none"> <li>1. Socially Prescribed Perfectionism</li> <li>2. Self-Oriented-Critical Perfectionism</li> <li>3. Self-Oriented-Striving Perfectionism</li> </ol> (maladaptive) Perfectionism (adaptive)	Factor analysis suggests the key factors of this measure are the interpersonal dimensions (Hewitt et al., 2011*; Flett, Coulter, & Hewitt, 2012*). SOP seems to be highly correlated with psychological distress, therefore it is important for clinicians to note that this measure does not explicitly assess SOP (according to the factor-analytic studies)	One cluster analysis study (Rice & Preusser, 2002*) was found which supports the notion of these three dimensions. While this scale is well-grounded in theory and research relating to the construct of perfectionism, it provides less descriptive information about maladaptive perfectionism than other scales

	The Adaptive/Maladaptive Perfectionism Scale (AMPS) for Children (Rice & Preusser, 2002*)	The Perfectionism Cognitions Inventory (Flett, Hewitt, Blankstein, & Gray, 1998*)	The Frost Multidimensional Perfectionism Scale (Frost et al., 1990)
Background	Questionnaire items developed from cognitive and psychodynamic theories of perfectionism, expert review, and factor and reliability analyses. 27-item self-report scale	Based on empirical findings relating distress to perfectionistic cognitions. 25-item self-report scale	Scale originally developed and validated for use with adults. Has subsequently been trialled with adolescents
Dimensions	<ol style="list-style-type: none"> <li>1 Sensitivity to Mistakes: distress as a result of making errors</li> <li>2 Contingent Self-Esteem: self-esteem based on meeting high standards</li> <li>3 Compulsiveness: conscientiousness and organisation</li> <li>4 Need for Admiration: desire for recognition and admiration</li> </ol>	One large factor of perfectionism	<ol style="list-style-type: none"> <li>1 Concern over Mistakes</li> <li>2 Doubts about Actions</li> <li>3 Personal Standards</li> <li>4 Parental Expectations</li> <li>5 Parental Criticism</li> <li>6 Organisation</li> </ol>
Evaluation	Factor analysis supports these factors (Rice, Kubal, & Preusser, 2004*), however Rice, Leever, Noggle, and Lapsley (2007) subsequently queried the validity of the Contingent Self-Esteem factor. Constructs of this measure map well onto the PPSF-Jr and CAPS	Flett et al. (2012) found the PCI to have good internal consistency and concurrent validity. Measure may be useful in conducting a thorough assessment of perfectionistic cognitions	Studies suggest four, rather than six dimensions for adolescents: Concerns and Doubts; Personal Standards; Parental Pressure, and Organisation (Hawkins, Watt, & Sinclair, 2006*; Stober, 1998*; Stumpf & Parker, 2000*)



were excluded (although an overview of literature pertaining to gifted and talented children is provided in this article). Theses, conference abstracts, book chapters, and studies published in nonpeer reviewed journals were also excluded.

#### Process of literature search

The initial database search yielded 1509 records; 446 after duplicates were removed. The titles and abstracts of these articles were then screened for inclusion. In cases where it was not clear from the abstract whether the article met inclusion criteria, the full-text article was reviewed. This led to 130 articles being included in the review. Eighty-four of these articles were studies examining perfectionism as a correlate or predictor of various mental health problems. Since this is already a well-established phenomenon, the authors decided to set aside these studies for a more brief evaluative review (online Appendix S1). This left 49 articles, which were divided into the following categories: (a) development (23); (b) assessment (19); and (c) treatment (7). References for these 49 articles are marked with an asterisk within the text and reference list (Figure 1).

#### The assessment of perfectionism

In order to describe the research implications of studies investigating the development and treatment of perfectionism, the key assessment tools for use with children will first be outlined. These measures provide different ways of conceptualising the construct of perfectionism.

#### Other measures which include assessment of perfectionism

The Child Dysfunctional Attitudes Scale (CDAS) contains questions about perfectionism, which cluster into Self-Critical Perfectionism and Personal Standards Perfectionism (McWhinnie, Abela, Knauper, & Zhang, 2009\*), or Perfectionism and Social Approval (Rogers et al., 2009\*). The Revised Connor's Parent Rating Scale (Connors, Sitarenios, Parker, & Epstein,

1998\*) contains a factor measuring perfectionism, as do the Eating Disorder Inventory-Child (Franko et al., 2004\*; Leung, Wang, & Tang, 2004\*), and the Multidimensional Anxiety Scale for Children (March, Parker, Sullivan, Stallings, & Conners, 1997\*). For infants, the Childhood Routines Inventory (Evans et al., 1997\*) contains a 'Just Right' subscale, which appears to be consistent with the Organisation and Compulsiveness factors of the Frost MPS and AMPS, respectively.

#### Associations between perfectionism and psychopathology in children and adolescents

There have been many correlational studies, and a handful of longitudinal studies examining the role of perfectionism in child mental health problems. Given that 84 papers were found relating to this, in the interest of brevity, the key findings from these studies are synthesised below. A more comprehensive overview with complete references is available online.

#### Depression

Maladaptive perfectionism, with discrepancy between personal standards and performance, has been linked with depression (e.g. Accordino, Accordino, & Slaney, 2000; Afshara et al., 2011). SOP and SPP are also associated with depression (e.g. Stornelli, Flett, & Hewitt, 2009). Some studies suggest this relationship is mediated by life stress (O'Connor, Rasmussen, & Hawton, 2010), hope (Ashby et al., 2011) and self-efficacy (Flett, Panico, & Hewitt, 2011).

Perfectionistic self-criticism and self-doubt have also been linked with adolescent suicidal behaviour (e.g. Bibeau & Dupuis, 2007), as have SPP and Perfectionistic Self-Presentation (PSP), mediated by hopelessness (e.g. Roxborough et al., 2012).

#### Anxiety

Maladaptive, self-oriented, socially prescribed, and self-critical perfectionism have been associated with anxiety in adolescents (e.g. Essau, 2008).

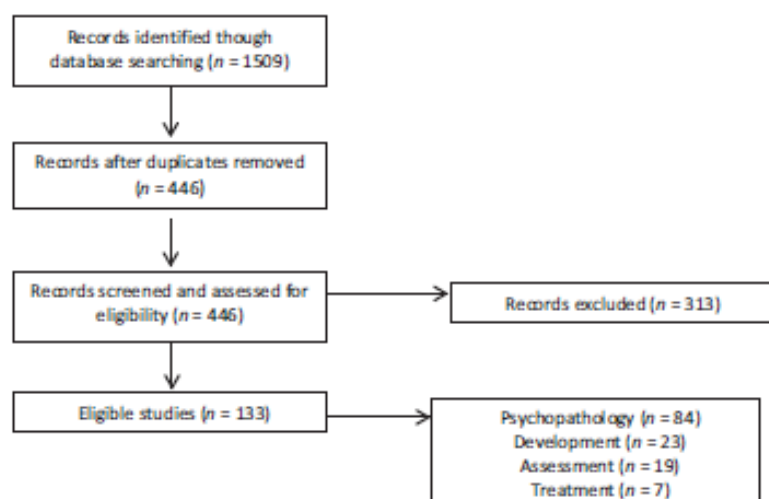


Figure 1. Flow of studies through the process of the literature review

Adding to the debate around the association between different dimensions of perfectionism with anxiety, Guignard, Jaquet, and Lubart (2012) found that, despite higher levels of SOP than controls, intellectually gifted children showed equal levels of anxiety. In addition, compared with another, younger control group, the intellectually gifted children showed the same level of perfectionism, but higher anxiety, suggesting a non-linear relationship between perfectionism and anxiety.

#### Eating disorders

Perfectionism is a key feature of the cognitive model of eating disorders (EDs; Fairburn, Shafran, & Cooper, 1999). Many studies have linked SOP and SPP perfectionism to ED symptoms in children and adolescents, as a correlate and risk factor (e.g. Dour & Theran, 2011). Several studies have suggested that Evaluative Concerns combined with high Personal Standards are the dimensions most related to EDs (e.g. Boone et al., 2012). However, this link has not been confirmed in all child and adolescent studies, for example Gustafsson et al. (2009) found that personal standards and self-evaluation in general were not risk factors for EDs, only attitudes specifically relating to eating, weight and physical self-evaluation. Similarly, in overweight youths, Eddy et al. (2007) found that *decreased* perfectionism was associated with ED pathology. Gender differences have also been observed in studies of perfectionism and EDs (e.g. Ferreira, Seoane, & Senra, 2012). Once again, this raises the question: are there further factors (e.g. gender, self-esteem, self-criticism, irrational beliefs) mediating the apparent relationship between perfectionism and EDs? At present, this is unclear because most of the studies are correlational, therefore causality cannot be inferred. There seems to be a tendency for some studies to investigate EDs as a singular category, but given that some studies have found differential relationships between AN and BN and perfectionism (e.g. Tykora et al., 2002), it seems that there is a need to study these problems separately. An alternative explanation for these inconsistent findings is the discrepancy between the construction of perfectionism by different questionnaires, making it difficult to compare and draw conclusions from these studies.

#### Obsessive compulsive disorder

High levels of perfectionism have been found to be a risk factor for obsessive compulsive behaviours (e.g. Cassidy, Allsop, & Williams, 1999): a study of the child version of the Obsessive Beliefs Questionnaire identified perfectionism as a key factor present in OCD (Wolters et al., 2011). Concern over Mistakes seems to be a key feature of perfectionism associated with OCD (e.g. Libby et al., 2004).

#### Perfectionism and other health/mental health problems

High levels of perfectionism have also been linked with hoarding (Pimpton, Frost, Abbey, & Dorner, 2009); school refusal (Atkinson, Quarrington, Cyr, & Atkinson, 1989); insomnia (Azevedo et al., 2010); cyclic vomiting syndrome (Ben-Amitay, Nevo, Lieberman, Mester, & Harel, 1998); headaches (Kowal & Pritchard, 1990); and socially problematic expression of anger (Hewitt et al., 2002).

### The development of perfectionism

#### Is there a link between 'pushy' parenting and perfectionism?

Mitchell, Newall, Broeren, and Hudson (2013\*) experimentally manipulated maternal perfectionistic child-rearing behaviours (i.e. overprotection from mistakes, focus on negative consequences of mistakes). All children showed an increase in SOP in response to highly perfectionistic child-rearing behaviours. Children receiving nonperfectionistic parenting improved in task performance. This provides strong evidence in support of the role of parent behaviour in the development of child perfectionism.

Kenney-Benson and Pomerantz (2005\*) observed mother-child dyads completing a homework task, and found that a 'pushy' style of parenting (the use of behavioural and psychological practices designed to push children to achieve certain outcomes, in an intrusive manner) was strongly associated with socially prescribed and self-oriented perfectionism. Interestingly, statistical adjustments suggested that 'maternal control' (pushing child to achieve goals) was linked with only socially prescribed perfectionism, leading the authors to suggest that self-oriented perfectionism may develop secondary to socially prescribed perfectionism.

McArdle (2009\*) studied three dimensions of parenting in relation to perfectionism: psychological control (manipulating the child's behaviour through means such as 'love withdrawal' and 'guilt induction' (p. 598)), behavioural control (setting limits), and acceptance (emotional and practical support). They found that children with psychologically and/or behaviourally controlling (as opposed to autonomy-encouraging) parents reported higher doubts about their actions, although there was no relationship between parenting and children's personal standards. Soenens et al. (2008\*) conducted a similar study with twice as many participants, and found that parent psychological control predicted child maladaptive perfectionism, with the exception of mother-daughter dyads.

Flett, Hewitt, and Singer's (1995\*) found similar results in a retrospective study of undergraduate students and their parents: authoritarian (as opposed to the less critical 'authoritative') parenting was linked with Socially Prescribed Perfectionism in males only. However, women with permissive fathers had higher Socially Prescribed Perfectionism, and those with high Self-Oriented Perfectionism rated their parents as warm and authoritative. The authors conclude that perhaps women with supportive family environments set high goals for themselves.

So, it seems that there is likely to be a link between 'pushy' parenting and aspects of perfectionism, but that this link is likely to be mediated by gender.

#### Attachment and perfectionism

Linked to the relationship between parenting and perfectionism are two questionnaire-based studies of attachment. Besharat, Azizi, and Poursharifi (2011\*) found anxious attachment styles in adolescents was associated with Perfectionistic Self-Promotion (PSP) and Socially Prescribed Perfectionism (SPP). They too found some gender differences: avoidant attachment to fathers was



related to PSP, whereas avoidant attachment to mothers was associated with SPP. These findings were corroborated by Chen et al. (2012\*), who found that anxious attachment was associated with non-disclosure of imperfection in adolescents. A study by Shanmugam, Jowett, and Meyer (2012\*) suggests that insecure attachment styles might lead to the development of self-critical perfectionism, which then interacts with other factors in the development of disordered eating.

The wider system may also affect the development of perfectionism: Essau, Leung, Conradt, Cheng, and Wong (2008\*) found that Chinese adolescents were significantly more anxious than children in many other countries. The authors suggest that Chinese culture encourages high personal standards and competitiveness, leading to the negative aspects of perfectionism causing anxiety.

#### *Intergenerational transmission of perfectionism*

Clark and Coker (2009\*) examined the relationship between perfectionism and self-criticism in mother-child dyads, and found no direct relationship between mother and child perfectionism. However, they did find links between self-criticism – a key component of maladaptive perfectionism – in mothers and their female offspring, and also that maternal criticism was associated with dysfunctional perfectionism in their children. Again, this provides some evidence for gender differences in the apparent intergenerational transmission of cognitive styles which may contribute to maladaptive perfectionism in children. However, another study by Cook and Kearney (2009\*) contradicts Clark and Coker's findings: their similar study found associations between mothers' and sons' self-oriented perfectionism, and that mothers' socially oriented perfectionism related to sons' internalising psychopathology. These two studies used similar numbers of participants, of a similar age. Clark and Coker used the Frost Multidimensional Perfectionism Scale (Frost et al., 1990), while Cook and Kearney used the Child and Adolescent Perfectionism Scale (Flett et al., 1997 [in O'Connor, Dixon, & Rasmussen, 2009]), so perhaps the different results may be attributed in part to these measures. Adding further uncertainty to the association between parent and child perfectionism, Rice, Tucker, and Desmond (2008\*) found only a weak association between parent and child perfectionism, although the study does not appear to have investigated gender differences, so may have found stronger correlations (in line with the afore-mentioned studies), had they done so.

#### *Cognitive processes in perfectionism*

In the adult literature, perfectionism was first described as a personality trait (Hollender, 1978), and later as a cognitive process, involving the setting of high standards upon the achievement of which one's entire self-worth is based, accompanied by highly critical self-evaluation (Frost et al., 1990). Davis and Wosinski (2012\*) found that cognitive errors (catastrophising, overgeneralising, personalising, and selective abstraction) were significant predictors of 'maladaptive' perfectionism. In addition, Flett, Coulter, Hewitt, and Nepon (2011\*) found that rumination was not only associated with perfectionism, but mediated

the relationship between perfectionism and depressive symptoms.

In other studies, Flett, Hewitt, and Cheng (2008\*), and Flett, Druckman, Hewitt, and Wekerle (2012\*) found specific differences between adolescents with self-oriented and socially prescribed perfectionism: those with SOP tended to have internalised, emotion-oriented coping responses and 'irrational' beliefs, whereas those with SPP reported avoidance-oriented coping strategies. While they found SOP and SPP to both be associated with distress, irrational beliefs predicted variance in distress more than perfectionism did.

Therefore, it seems likely that the relationship between perfectionism and distress in children is not linear, rather it is moderated by additional cognitive factors such as rumination, coping style, and irrational beliefs. Shahar, Blatt, Zuroff, Kuperminc, and Leadbeater (2004\*) used a longitudinal design to further assess the relationship between self-criticism and depression, and concluded by proposing a reciprocal causality model, whereby self-criticism and depression feed into each other, although there was again a gender difference, with depressive symptoms feeding into self-critical thinking for girls, but not boys.

In addition to parenting factors as possible mechanisms for the development of these cognitive styles, Lindberg and Distad (1985\*) describe a series of cases of survivors of childhood sexual abuse. The authors noted that perfectionism was highly prevalent in these individuals, and may have been a coping strategy to counter feelings of worthlessness and despair.

#### *Development of perfectionism in gifted and talented populations*

A great deal of literature studying perfectionism in gifted children and young people exists; too much to evaluate comprehensively in this article. This is an important area which is briefly discussed below, but which warrants a systematic review of its own.

*Perfectionism in the gifted and talented.* It has been suggested that perfectionism and associated psychological distress are more prevalent in the gifted and talented population (e.g. LoCicero & Ashby, 2000; Neihart, 1999; Speirs Neumeister, 2004), although a review by Parker (2000) concluded that levels of perfectionism are no higher in gifted populations. This finding is supported by a more recent study by Stornelli et al. (2009) who also found no difference in perfectionism levels between gifted and nongifted children.

Further to this, Chan (2010) found higher maladaptive perfectionism in nongifted students, and also observed an overrepresentation of adaptive perfectionism in gifted students. Chan used high discrepancy scores (derived from the Almost Perfect Scale) to denote maladaptive perfectionism so it makes sense that, perhaps, high standards are more achievable for gifted students, leading to lower discrepancy scores. Additionally, perhaps being gifted can increase self-esteem and thus acts as a buffer against perfectionism becoming dysfunctional.

*Parenting and perfectionism in the gifted.* Similar to research with the general population, studies of gifted students have found that performance-directed (as opposed to learning-directed) parenting, authoritarian

stance, and parental perfectionism are associated with dysfunctional and socially prescribed perfectionism (Ab-lard & Parker, 1997; Speirs Neumeister, 2004). Support-ing the idea that achievements may act as a safeguard against maladaptive perfectionism, Speirs Neumeister found that self-oriented perfectionism was reported to be a result of being good at things and not experiencing failure, and parental perfectionism.

So, while self-esteem derived from out-performing peers and finding tasks relatively easy might protect against maladaptive perfectionism developing out of high standards, it is likely that it is important to monitor the discrepancy between gifted children's aspirations and performance, because perhaps if discrepancy devel-ops, this is where perfectionism might become dysfunc-tional and cause distress.

#### Positive aspects of perfectionism

It is important to note the potential for certain types of perfectionism to have a positive influence on people's lives, as this may be useful in the treatment of people with mental health problems where maladap-tive perfectionism is identified as a maintaining factor. For example, Self-Oriented striving (as opposed to criti-cal) perfectionism has not been linked with distress (O'Connor et al., 2010), and adaptive perfectionists have been found to have higher satisfaction with life and lower depression levels than maladaptive and nonperfec-tionists (Wang, Yuen, & Slaney, 2009). Afshara et al. (2011) note 'positive' perfectionism as a protective factor against depression. High personal standards have been found to predict academic achievement and higher self-esteem (Accordino, Accordino, & Slaney, 2000), which has important implications for treatment, as perfec-tionistic people may not wish to become nonperfectionist, and it seems from the literature that aiming for an adap-tive, striving, but noncritical type of perfectionism may be preferable, in terms of outcome.

*Developing positive perfectionism.* Family factors such as nurturing, cohesion, and adaptability appear to be related to child perfectionism. DiPrima, Ashby, Gnllka, and Noble (2011\*) found that adaptive perfectionists tended to have more balanced, nurturing, and cohesive families than nonperfectionists or maladaptive perfec-tionists. This notion is supported by Flett and Hewitt (2012\*), who found that adolescents with high levels of socially prescribed perfectionism reported reduced levels of family support. However, causality cannot be inferred from these correlational studies. Another study found that maternal expression of direct expectations and encouragement (as opposed to setting out expectations in a more controlling, harsh way) was linked with 'self-striving' on the child's part, where the child was able to have high expectations for themselves without being overly concerned about making mistakes or pleasing other people (Hutchinson & Yates, 2008\*).

Interestingly, a study by Tong and Lam (2011\*) found that children who were more willing to internalise their mothers' goals had higher self-oriented perfectionism (but not socially prescribed perfectionism), and lower depression. Therefore, children are perhaps more likely to develop adaptive perfectionism, where their goals are similar to those of their parents.

With the exception of Soenens et al.'s study, the exist-ing literature regarding parental influences on the devel-opment of child perfectionism are correlational. This presents a problem for developing theory about causal mechanisms behind perfectionism. Figure 2 shows a tentative model highlighting the key aspects linked to childhood perfectionism in the literature. Further research should include more longitudinal and experi-mental studies to test the theories of intergenerational transmission of perfectionistic/self-critical cognitions, and the influence of parenting style and attachment on child perfectionism.

#### Treatment of childhood perfectionism

Results from the child and adolescent literature replicate those of the adult literature, citing high perfectionism as impeding treatment outcome. High perfectionism is associated with nonresponse to treatment for depression and suicidality (Jacobs et al., 2009; O'Connor et al., 2007); nonschool attendance at six-month follow-up of trial for CBT for Chronic Fatigue Syndrome (Lloyd, Chal-der, Sallis, & Rimes, 2012); and longer duration of illness (Nilsson, Sundbom, & Hagglof, 2008; Phillips et al., 2010).

In contrast to the plethora of correlational studies examining the role of perfectionism in childhood mental health problems, there appear to be few treatment stud-ies, with only seven being identified. These articles vary considerably in terms of their methodological quality.

#### Case studies

Two case studies were identified (Ashby, Kottman, & Martin, 2004\*; Daigneault, 1999\*). Neither used out-come measures to monitor treatment effectiveness, although the former authors recommend assessing perfec-tionism through observation of play, and parent reports. Both studies describe the use of narrative and creative play therapy techniques to support children to:

- 1 recognise self-defeating themes in play and begin to shift their behaviours
- 2 learn to moderate their reaction to perceived criticism
- 3 externalise and restructure cognitions
- 4 expand choice of play materials
- 5 readjust attitudes to cleanliness and order
- 6 promote risk-taking and mistake-making

As is generally accepted in work with children/adoles-cents, both papers recommend liaison with parents and teachers.

While these papers have obvious methodological limi-tations, the above goals for therapy accurately reflect many of the dimensions of perfectionism that have been described in this study. They address parent behaviours that might maintain perfectionism, high personal stan-dards, concern about mistakes and doubt about actions, non-display of imperfection, organisation/compulsive-ness, contingent self-esteem, and negative automatic thoughts. Addressing these maintaining factors through play seems a developmentally appropriate approach,



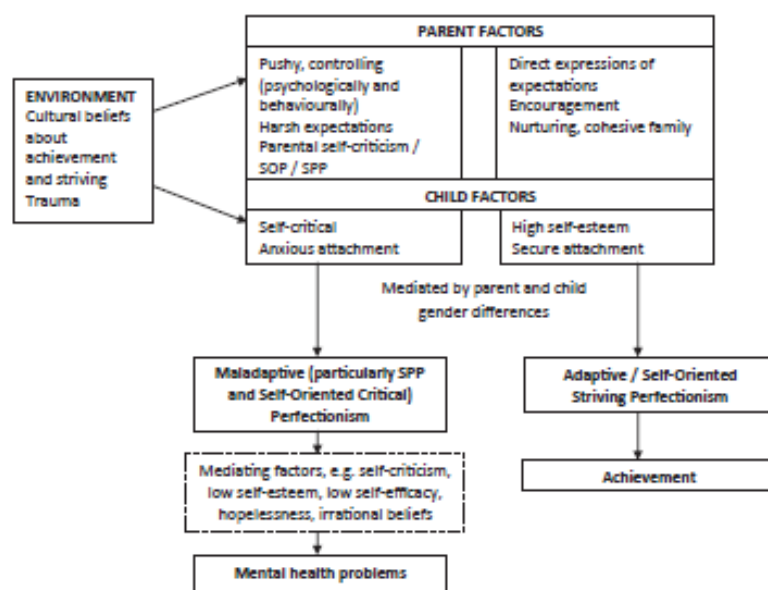


Figure 2. A hypothesised model of the development of childhood perfectionism

for which further, more scientifically rigorous study is recommended.

#### Quasi-experimental trials

Three trials of group-based interventions were identified:

- 1 Essau, Conradt, Sasagawa, and Ollendick (2012\*) conducted a large-scale ( $n = 638$ ) evaluation of the FRIENDS Programme (Barrett & Turner, 2001, cited in Essau et al., 2012). This universal, preventative, CBT-based anxiety-reduction programme was evaluated using the CAPS, among other measures. The study found that children who participated in the FRIENDS Programme exhibited significantly lower perfectionism, anxiety, and depression scores than children in the control group. This was maintained at 12 month follow-up. As expected from the evidence outlined earlier relating to the influence of perfectionism on treatment outcome, the authors found that lower baseline perfectionism predicted better treatment outcomes.
- 2 In another large study ( $n = 258$ ), McVey, Davis, Tweed, and Shaw (2004\*) evaluated the effectiveness of a life-skills promotion programme (Every Body is a Somebody), designed to improve body image satisfaction and self-esteem, while reducing negative eating attitudes and perfectionism. While the group had a significant short-term influence on body image satisfaction, self-esteem and eating attitudes, there was no significant influence on perfectionism as measured by the CAPS. The gains were not maintained at follow-up.
- 3 The only study found which directly addressed perfectionism was a controlled comparison study ( $n = 127$ ) by Wilksch, Durbridge, and Wade (2008\*). Students took part in an 8-week eating disorder prevention programme, and were randomised to either

a programme targeting perfectionism, a programme targeting media literacy, or a school-as-usual control group. The perfectionism group had a significant effect on Concern over Mistakes and Personal Standards, which seemed to particularly benefit participants with high levels of shape and weight concern. The perfectionism group included psychoeducation about perfectionism, weighing up the advantages and disadvantages of adaptive and maladaptive perfectionism, considering maintaining factors, challenging thinking, and changing behaviour.

#### Randomised controlled trials

Two RCTs were identified (Mitchell, Newall, et al., 2013\*; Nobel, Manassis, & Wilansky-Traynor, 2012\*) where perfectionism was discussed as an outcome. Both studies examined the results of relatively small ( $n = 67$  and  $78$ , respectively) group-based CBT programmes focussing on anxiety management. Mitchell et al. reported significant reductions in both SOP and SPP following treatment, and Nobel and colleagues reported reductions in SOP only. Both studies discuss the impact of pretreatment SOP on treatment outcome, in that SOP negatively influenced posttreatment anxiety and depression symptoms.

#### Discussion

This review highlights that the literature relating to perfectionism in children is lagging behind adult perfectionism research, in terms of quantity and quality.

#### Phenomenology and development of perfectionism

It is clear that there is a wealth of studies examining the correlates of perfectionism. This provides rich data upon which to base further studies of assessment measures, and treatment of perfectionism. The

future direction of research into perfectionism in children should now move away from correlational design, towards more experimental, longitudinal, and treatment studies, to test the theories which have now been set out as a result of the correlational studies. Many of the correlational studies suggested that there may be a third, mediating factor (or factors) in the relationship between perfectionism and mental health problems (such as self-esteem, rumination, and parent factors). It is important to investigate this with further, noncorrelational research.

Several studies to date have highlighted possible gender and culture differences in the development of perfectionism, and its differential influence on psychopathology. Future researchers should consider gender and culture differences. Linked to this, there was also a tendency to combine eating disorders into a single category. There are some indications that different dimensions of perfectionism are associated differentially with bulimia and anorexia, suggesting that these should be studied as distinct disorders in the context of perfectionism research.

#### Assessment of perfectionism

There is a range of tools for clinicians and researchers to choose from when assessing perfectionism in children. While this choice is useful, it presents a problem when amalgamating the research and testing theories. Different measures appear to measure similar concepts, which suggest it would be useful for the authors of the key measures to collaborate to develop a single tool which measures the dimensions of perfectionism indicated by the current literature.

A key drawback to almost all of the measures reviewed in this article is that there are almost no validation or factor analysis studies by independent authors. This means that many of the research papers about assessment measures are subject to a high risk of bias.

#### Treatment research

It seems striking that the literature search revealed such a vast number of correlational studies examining the relationship between perfectionism and psychopathology, but a comparatively small number of articles exploring treatment options for perfectionism in children and adolescents. It seems that perfectionism is likely to be a prominent feature in many children and young people presenting for treatment, so it would be useful for clinicians and researchers to contribute to the evidence base for the treatment of perfectionism as a trans-diagnostic concept. All of the noncase study-based treatment articles involved preventative programmes with nonclinical populations, so it would be useful for future studies to explore the treatment of perfectionism within the context of mental health problems.

Additionally, only two of the treatment studies discussed in this review appeared to directly target the underlying phenomenology of perfectionism, described in the assessment and development sections of this paper. It would be useful for future studies to test the dimensional models of perfectionism by tailoring treatments to directly address the factors which are proposed to contribute to the development and maintenance of perfectionism, including parent factors, which are heavily addressed in the literature, but seem to be almost

ignored in the treatment literature to date. Shafran and Mansell (2001) describe adult perfectionism as '*notoriously difficult to treat*' (p. 900), therefore longitudinal studies of the impact of parenting interventions specifically targeting parent perfectionism and other parenting factors linked with child perfectionism would be useful. In addition, it seemed from the available literature that Self-Oriented-Critical and Socially Prescribed Perfectionism were particularly damaging, in terms of their association with psychopathology. However, encouragingly it seemed that some forms of perfectionism were positive and protective against mental health problems, suggesting that interventions targeting SO-critical P and SPP, aiming at gently supporting clients towards developing SO-striving, adaptive perfectionism may be helpful.

Due to the scarcity of treatment literature, research at all levels (e.g. case studies with suitable outcome measures, quasi experimental studies, and randomised controlled trials) will bring new insights to the treatment of perfectionism, and the impact of this on psychopathology.

#### Conclusion

This study presents the results of a literature search pertaining to the development, assessment, and treatment of childhood perfectionism. The review revealed a wealth of correlational studies examining the link between perfectionism and mental health problems. However, causation cannot be inferred from correlation, therefore other research methodologies must be used in future research to investigate the mechanisms behind this relationship. Much of the research into the development of perfectionism highlighted a central role of parental anxiety and parent-child relationships. However, the sparse treatment literature did not, on the whole, reflect this, focussing instead (generally) on group-based general CBT or educational programmes. Future research should focus on developing and testing treatment models for perfectionism, based on its underlying phenomenology. Clinicians should be aware of the role of perfectionism in psychopathology and its negative impact on treatment outcome. Clinicians should consider addressing perfectionism during therapy, and publishing such cases, as they would add valuable knowledge to the empirical understanding of perfectionism in children.

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#### Supporting information

Additional Supporting Information may be found in the online version of this article:

**Appendix S1.** Associations between perfectionism and psychopathology in children and adolescents.

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## **Appendix B1: Instructions for authors**

### **Journal of Child and Adolescent Trauma Author Guidelines:**

This journal does not have a word limit for articles.

References, citations, and general style of manuscripts should be prepared in accordance with the most recent APA Publication Manual.



## **Appendix B2: Child Revised Impact of Events Scale**

### **Revised Child Impact of Events Scale**

Thinking back over your life, there might have been something really upsetting that happened before you came into care, after you came into care, or you might have found coming into care really upsetting and stressful. Below is a list of comments made by people after upsetting or stressful life events. Please put a X for each item showing how frequently these comments were true for you *during the past seven days*. If they did not occur during that time please put a X in the 'not at all' box.

Name: .....

Date: .....

	<b>Not at all</b>	<b>Rarely</b>	<b>Some- times</b>	<b>Often</b>
1. Do you think about it even when you don't mean to?	[ ]	[ ]	[ ]	[ ]
2. Do you try to remove it from your memory	[ ]	[ ]	[ ]	[ ]
3. Do you have waves of strong feelings about it	[ ]	[ ]	[ ]	[ ]
4. Do you stay away from reminders of it (e.g. places or situations)	[ ]	[ ]	[ ]	[ ]
5. Do you try not talk about it	[ ]	[ ]	[ ]	[ ]
6. Do pictures about it pop into your mind?	[ ]	[ ]	[ ]	[ ]
7. Do other things keep making you think about it?	[ ]	[ ]	[ ]	[ ]
8. Do you try not to think about it?	[ ]	[ ]	[ ]	[ ]

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## **Appendix B3: Summary of presentation of findings to the service**

### **Presentation of Findings to the Service**

Findings were presented to the team at a regular weekly meeting, with the aid of a hand-out summarising the project's results (Appendix B4). Clinicians reported that they had found the CRIES-8 to be a very helpful screening tool, and plan to continue to use it to promote identification and discussion of post-trauma symptoms. This led to discussion of creating a care pathway for individuals who screen positively for PTSD, including clinician-led interview-based assessment to confirm diagnosis of PTSD. The project also highlighted a training need for clinicians in terms of NICE-recommended therapies for PTSD, including information and training on the evidence base for psychological therapies for CYP who have experienced multiple and/or prolonged traumas.

Further topics for future consultancy / literature review / research in this area include:

- A small-scale study of clinician beliefs about referring CYP screening positively for PTSD to CAMHS
- Consultancy project to plan an appropriate care pathway for individuals screening positively for PTSD
- Larger-scale research to determine the validity of the CRIES-8 with LAC
- Research to determine whether the prevalence of PTSD in LAC is as high as it was in this sample of LAC who have been identified by their social worker or another healthcare professional as having mental health difficulties. This might facilitate access to services for the afore-mentioned "closed book" or "too good to be true" children, if required.
- A literature review of empirically grounded psychological approaches to the treatment of PTSD for single and multiple/prolonged trauma in LAC

## Appendix B4: Project summary sheet

### CRIES-8 PTSD SCREENING PROJECT

#### DSM-V criteria for PTSD

- Event(s) involving perceived threat to life/physical integrity
- Intense fear/helplessness/horror
- Re-experiencing (flashbacks/nightmares)
- Avoiding reminders of trauma
- Hyper-arousal
- Emotional numbing

#### Treatment of PTSD

NICE (2005): Trauma-focussed CBT, with increased number of sessions for multiple traumatic events/comorbidities

#### Barriers to treatment for LAC :

*"narrow referral criteria, non-detection of mental health problems, referrer's reluctance to pathologise behaviour, co-morbidity, engagement difficulties, and limited resources"*

#### PTSD in LAC

- Trauma experiences are common in LAC (69% experience neglect, 48% physical abuse, 37% emotional abuse, 23% sexual abuse)
- 22-71% prevalence rate of PTSD
- PTSD possibly the most prevalent mental health problem in LAC
- PTSD is 19x more prevalent in LAC than general population

#### Screening for PTSD

Screening questionnaires recommended to improve detection of MH problems

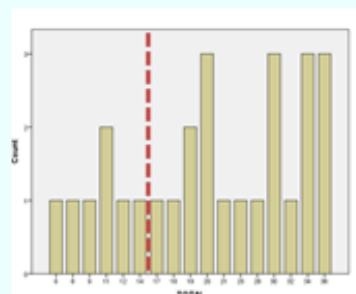
Some researchers recommend conceptualising LAC's difficulties within a trauma framework helps teachers and professionals to understand better PTSD label provides a relatively stigma-free functional description/formulation of difficulties

#### Research questions:

1. What proportion of CYP within the service screen positively for PTSD?
2. Does using a PTSD screening tool increase referrals to CAMHS, and acceptance of referrals by CAMHS?

#### Results

1. The Child Revised Impact of Events Scale (CRIES-8) was implemented, following literature review and consultation. Scores  $\geq 17$  are suggestive of PTSD.
2. The CRIES-8 was sent to 63 over-8s on caseload
3. 28 (43%) individuals completed the CRIES. 21 (75%) scored  $\geq 17$



The above graph shows a trend toward higher scores

#### CAMHS Referrals

	9 months pre-CRIES	3 months post-CRIES
CAMHS referrals	19 (2.1/month)	6 (2/month)
% not accepted	21%	0%

5/6 of those who were referred to CAMHS had completed the CRIES-8. Scores were generally significantly above the PTSD threshold (14, 30, 34, 34, 38)

#### Psychometric properties of the CRIES-8

The CRIES-8 showed good internal consistency and similar psychometric properties to larger studies

#### Discussion

It seems that a very large proportion of the caseload may be suffering with post-trauma symptoms, although there are obvious limitations to this project, e.g. low sample size, self-selecting sample, validity of CRIES-8 and construct of PTSD in this population.

#### Ideas for practice

Cohen et al. (2010) suggest PRACTICE model for CYP with complex trauma difficulties:

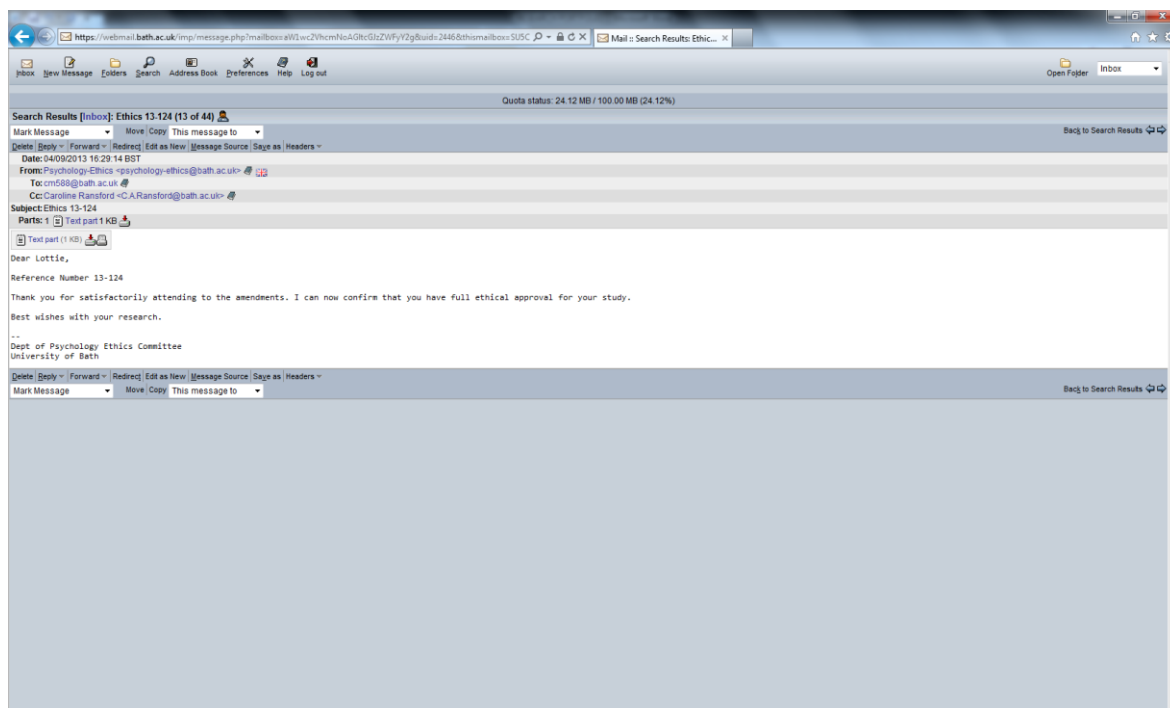
P:	Psychoeducation (information about trauma and trauma reactions)
P:	Parenting skills (behavior management skills)
R:	Relaxation skills (managing physiologic reactions to trauma)
A:	Affective modulation skills (managing affective responses to trauma)
C:	Cognitive coping skills (connections between thoughts, feelings, behaviors)
T:	Trauma narrative and processing (correcting cognitive distortions related to trauma)
I:	In vivo mastery of trauma reminders (overcoming generalized fear related to trauma)
C:	Conjoint child-parent sessions (variety of joint child-parent activities)
E:	Enhancing safety and future development (safety planning for future)

#### Suggestions for further research

- Study of clinician beliefs about construct and treatment of PTSD in LAC
- Development of care pathway for LAC screening positively for PTSD
- Research exploring the validity of CRIES with LAC
- Study of PTSD in general LAC population
- Literature review of treatment of trauma in LAC

## **Appendix B5: Information relevant to ethical review**

The Service Improvement Project received approval from The University of Bath Research Ethics Committee (reference number 13-124). In the absence of a letter, a copy of an email confirming ethical approval is copied below:



This study was also approved by Bristol City Council's Children and Young People's Services. Their approval process meant that a reference number was not assigned, however my contact at the Council was Heather Mundy, Research in Practice Link Officer with the Joint Commissioning Team.

## **Appendix C1: Instructions for authors**

### **Neuropsychological Rehabilitation Author Guidelines:**

This journal accepts original articles.

The style and format of the typescripts should conform to the specifications given in the Publication Manual of the APA (6<sup>th</sup> ed.).

There is no word limit for manuscripts submitted to this journal. Authors should include a word count with their manuscript.

Abstracts of 150-200 words are required for all manuscripts submitted.

Each manuscript should have up to 5 keywords.

Section headings should be concise.

## Appendix C2: Measures used

### Hospital Anxiety and Depression Scale:

#### Hospital Anxiety and Depression Scale (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week.  
Don't take too long over your replies: your immediate is best.

D	A		D	A	
		<b>I feel tense or 'wound up':</b>			<b>I feel as if I am slowed down:</b>
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
		<b>I still enjoy the things I used to enjoy:</b>			<b>I get a sort of frightened feeling like 'butterflies' in the stomach:</b>
0		Definitely as much	0		Not at all
1		Not quite so much	1		Occasionally
2		Only a little	2		Quite Often
3		Hardly at all	3		Very Often
		<b>I get a sort of frightened feeling as if something awful is about to happen:</b>			<b>I have lost interest in my appearance:</b>
	3	Very definitely and quite badly	3		Definitely
	2	Yes, but not too badly	2		I don't take as much care as I should
	1	A little, but it doesn't worry me	1		I may not take quite as much care
	0	Not at all	0		I take just as much care as ever
		<b>I can laugh and see the funny side of things:</b>			<b>I feel restless as I have to be on the move:</b>
0		As much as I always could	3		Very much indeed
1		Not quite so much now	2		Quite a lot
2		Definitely not so much now	1		Not very much
3		Not at all	0		Not at all
		<b>Worrying thoughts go through my mind:</b>			<b>I look forward with enjoyment to things:</b>
	3	A great deal of the time	0		As much as I ever did
	2	A lot of the time	1		Rather less than I used to
	1	From time to time, but not too often	2		Definitely less than I used to
	0	Only occasionally	3		Hardly at all
		<b>I feel cheerful:</b>			<b>I get sudden feelings of panic:</b>
3		Not at all	3		Very often indeed
2		Not often	2		Quite often
1		Sometimes	1		Not very often
0		Most of the time	0		Not at all
		<b>I can sit at ease and feel relaxed:</b>			<b>I can enjoy a good book or radio or TV program:</b>
	0	Definitely	0		Often
	1	Usually	1		Sometimes
	2	Not Often	2		Not often
	3	Not at all	3		Very seldom

Please check you have answered all the questions

### Structured Clinical Interview for DSM-IV (Depression Subscale)

SCID-I (DSM-IV) Version 2.0

Current MDE (FEB 1996 FINAL)

Mood Episodes A. 1

### A. MOOD EPISODES

IN THIS SECTION, MAJOR DEPRESSIVE, MANIC, HYPOMANIC EPISODES, DYSTHYMIC DISORDER, MOOD DISORDER DUE TO A GENERAL MEDICAL CONDITION, SUBSTANCE-INDUCED MOOD DISORDER, AND EPISODE SPECIFIERS ARE EVALUATED. MAJOR DEPRESSIVE DISORDER AND BIPOLAR DISORDERS ARE DIAGNOSED IN MODULE D.

**CURRENT MAJOR DEPRESSIVE  
EPISODE**

### MDE CRITERIA

Now I am going to ask you some more questions about your mood

A. Five (or more) of the following symptoms have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood, or (2) loss of interest or pleasure.

In the last month . . .

... has there been a period of time when you were feeling depressed or down most of the day nearly every day? (What was that like?)

IF YES: How long did it last? (As long as two weeks?)

(1) depressed mood most of the day, nearly every day, as indicated either by subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful).

?	1	2	3	A1
---	---	---	---	----

... what about losing interest or pleasure in things you usually enjoyed?

IF YES: Was it nearly every day?  
How long did it last? (As long as  
two weeks?)

(2) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated either by subjective account or observation made by others).

?	1	2	3	A2
---	---	---	---	----

IF NEITHER  
ITEM (1) NOR  
ITEM (2) IS  
CODED "3,"  
GO TO \*PAST  
MAJOR  
DEPRESSIVE  
EPISODE,\*  
A. 12

NOTE: WHEN RATING THE FOLLOWING ITEMS, CODE "1" IF CLEARLY DUE TO A GENERAL MEDICAL CONDITION, OR TO MOOD-INCONGRUENT DELUSIONS OR HALLUCINATIONS

?=inadequate information

1=absent or false

2=subthreshold

3=threshold or true

FOR THE FOLLOWING  
QUESTIONS, FOCUS ON THE  
WORST TWO WEEKS IN THE PAST  
MONTH (OR ELSE THE PAST TWO  
WEEKS IF EQUALLY DEPRESSED  
FOR ENTIRE MONTH)

During this (TWO WEEK PERIOD) . . .

. . . did you lose or gain any weight?  
(How much?) (Were you trying to lose  
weight?)

(3) significant weight loss when not  
dieting, or weight gain (e.g., a change  
of more than 5% of body weight in a  
month) or decrease or increase in  
appetite nearly every day.

? 1 2 3 A3

IF NO: How was your appetite?  
(What about compared to your usual  
appetite?) (Did you have to force  
yourself to eat?) (Eat [less/more] than  
usual?) (Was that nearly every day?)

Check if:

\_\_\_\_\_ weight loss or decreased  
appetite

A4

\_\_\_\_\_ weight gain or increased  
appetite

A5

. . . how were you sleeping? (Trouble  
falling asleep, waking frequently,  
trouble staying asleep, waking too  
early, OR sleeping too much? How  
many hours a night compared to  
usual? Was that nearly every night?)

(4) insomnia or hypersomnia nearly  
every day

? 1 2 3 A6

Check if:

\_\_\_\_\_ insomnia

A7

\_\_\_\_\_ hypersomnia

A8

. . . were you so fidgety or restless that  
you were unable to sit still? (Was it so  
bad that other people noticed it?  
What did they notice? Was that  
nearly every day?)

(5) psychomotor agitation or  
retardation nearly every day  
(observable by others, not merely  
subjective feelings of restlessness or  
being slowed down)

? 1 2 3 A9

IF NO: What about the opposite --  
talking or moving more slowly than  
is normal for you? (Was it so bad  
that other people noticed it? What  
did they notice? Was that nearly  
every day?)

NOTE: CONSIDER BEHAVIOR  
DURING THE INTERVIEW

Check if:

\_\_\_\_\_ psychomotor retardation

A10

\_\_\_\_\_ psychomotor agitation

A11

. . . what was your energy like?  
(Tired all the time? Nearly every  
day?)

(6) fatigue or loss of energy nearly  
every day

? 1 2 3 A12

?=inadequate information

1=absent or false

2=subthreshold

3=threshold or true



During this time . . .

. . . how did you feel about yourself?  
(Worthless?) (Nearly every day?)(7) feelings of worthlessness or  
excessive or inappropriate guilt  
(which may be delusional) nearly  
every day (not merely self-  
reproach or guilt about being sick)

? 1 2 3

A13

IF NO: What about feeling guilty  
about things you had done or not  
done? (Nearly every day?)NOTE: CODE "1" OR "2" IF ONLY  
LOW SELF-ESTEEM

Check if:

☐ worthlessness  
☐ inappropriate guiltA14  
A15. . . did you have trouble thinking or  
concentrating? (What kinds of things  
did it interfere with?) (Nearly every  
day?)(8) diminished ability to think or  
concentrate, or indecisiveness,  
nearly every day (either by  
subjective account or as observed  
by others)

? 1 2 3

A16

IF NO: Was it hard to make decisions  
about everyday things? (Nearly every  
day?)

Check if:

☐ diminished ability to think  
☐ indecisivenessA17  
A18. . . were things so bad that you were  
thinking a lot about death or that you  
would be better off dead? What about  
thinking of hurting yourself?(9) recurrent thoughts of death  
(not just fear of dying), recurrent  
suicidal ideation without a specific  
plan, or a suicide attempt or a  
specific plan for committing  
suicide

? 1 2 3

A19

IF YES: Did you do anything to  
hurt yourself?NOTE: CODE "1" FOR SELF-  
MUTILATION W/O SUICIDAL  
INTENT

Check if:

☐ thoughts of own death  
☐ suicidal ideation  
☐ specific plan  
☐ suicide attemptA20  
A21  
A22  
A23AT LEAST FIVE OF THE ABOVE SXs [A (1-9)]  
ARE CODED "3" AND AT LEAST ONE OF  
THESE IS ITEM (1) OR (2)

1 3

A24

OR IF AT LEAST 2 OR MORE (BUT LESS THAN 5)  
OF THE ABOVE SXs [A (1-9)] ARE CODED "3"  
AND AT LEAST ONE OF THESE IS ITEM (1) OR (2)IF YES CARRY ON AND  
CHECK WHETHER  
CRITERION C, D & E  
APPLY TO CHECK FOR  
MINOR DEPRESSIVE  
EPISODE  
IF NO THEN  
GO TO "PAST MAJOR  
DEPRESSIVE EPISODE"  
A12

?=inadequate information

1=absent or false

2=subthreshold

3=threshold or true

IF UNCLEAR: Has (DEPRESSIVE EPISODE/OWN WORDS) made it hard for you to do your work, take care of things at home, or get along with other people?

C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning

NOTE: DSM-IV criterion 3 (i.e., does not meet criteria for a Mixed Episode) has been omitted from the SCID.

? 1 2 3 A25

GO TO  
"PAST  
MAJOR  
DEPRES-  
SIVE  
EPISODE"  
A. 12

Just before this began, were you physically ill?

D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, medication) or to a general medical condition

? 1 3 A26

IF YES: What did the doctor say?

Just before this began, were you using any medications?

IF YES: Any change in the amount you were using?

Just before this began, were you drinking or using any street drugs?

IF THERE IS ANY INDICATION THAT THE DEPRESSION MAY BE SECONDARY (I.E., A DIRECT PHYSIOLOGICAL CONSEQUENCE OF A GMC OR SUBSTANCE, GO TO "GMC/SUBSTANCE," A. 43, AND RETURN HERE TO MAKE A RATING OF "1" OR "3."

DUE TO SUB-  
STANCE  
USE OR  
GMC  
GO TO  
"PAST  
MAJOR  
DEPRES-  
SIVE  
EPISODE"  
A. 12

PRIMARY  
MOOD  
EPISODE

Etiological general medical conditions include: degenerative neurological illnesses (e.g., Parkinson's disease), cerebrovascular disease (e.g., stroke), metabolic conditions (e.g., Vitamin B-12 deficiency), endocrine conditions (e.g., hyper- and hypothyroidism, hyper- and hypoadrenocorticism); viral or other infections (e.g., hepatitis, mononucleosis, HIV), and certain cancers (e.g., carcinoma of the pancreas).

Etiological substances include: alcohol, amphetamines, cocaine, hallucinogens, inhalants, opioids, phencyclidine, sedatives, hypnotics, anxiolytics. Medications include antihypertensives, oral contraceptives, corticosteroids, anabolic steroids, anticancer agents, analgesics, anticholinergics, cardiac medications.

CONTINUE  
BELOW

?=inadequate information

1=absent or false

2=subthreshold

3=threshold or true

## Hamilton Depression Ratings Scale

### THE HAMILTON RATING SCALE FOR DEPRESSION

(to be administered by a health care professional)

Patient's Name \_\_\_\_\_

Date of Assessment \_\_\_\_\_

To rate the severity of depression in patients who are already diagnosed as depressed, administer this questionnaire. The higher the score, the more severe the depression.

**For each item, write the correct number on the line next to the item. (Only one response per item)**

1. **DEPRESSED MOOD** (Sadness, hopeless, helpless, worthless)  
\_\_\_\_\_ 0= Absent  
1= These feeling states indicated only on questioning  
2= These feeling states spontaneously reported verbally  
3= Communicates feeling states non-verbally—i.e., through facial expression, posture, voice, and tendency to weep  
4= Patient reports VIRTUALLY ONLY these feeling states in his spontaneous verbal and non-verbal communication
2. **FEELINGS OF GUILT**  
\_\_\_\_\_ 0= Absent  
1= Self reproach, feels he has let people down  
2= Ideas of guilt or rumination over past errors or sinful deeds  
3= Present illness is a punishment. Delusions of guilt  
4= Hears accusatory or denunciatory voices and/or experiences threatening visual hallucinations
3. **SUICIDE**  
\_\_\_\_\_ 0= Absent  
1= Feels life is not worth living  
2= Wishes he were dead or any thoughts of possible death to self  
3= Suicidal ideas or gesture  
4= Attempts at suicide (any serious attempt rates 4)
4. **INSOMNIA EARLY**  
\_\_\_\_\_ 0= No difficulty falling asleep  
1= Complains of occasional difficulty falling asleep—i.e., more than 1/2 hour  
2= Complains of nightly difficulty falling asleep
5. **INSOMNIA MIDDLE**  
\_\_\_\_\_ 0= No difficulty  
1= Patient complains of being restless and disturbed during the night  
2= Waking during the night—any getting out of bed rates 2 (except for purposes of voiding)

Adapted from Hedlung and Vieweg, The Hamilton rating scale for depression, *Journal of Operational Psychiatry*, 1979;10(2):149-165.

- 
6. **INSOMNIA LATE**
- \_\_\_\_\_ 0= No difficulty  
1= Waking in early hours of the morning but goes back to sleep  
2= Unable to fall asleep again if he gets out of bed
7. **WORK AND ACTIVITIES**
- \_\_\_\_\_ 0= No difficulty  
1= Thoughts and feelings of incapacity, fatigue or weakness related to activities; work or hobbies  
2= Loss of interest in activity; hobbies or work—either directly reported by patient, or indirect in listlessness, indecision and vacillation (feels he has to push self to work or activities)  
3= Decrease in actual time spent in activities or decrease in productivity  
4= Stopped working because of present illness
8. **RETARDATION: PSYCHOMOTOR** (Slowness of thought and speech; impaired ability to concentrate; decreased motor activity)
- \_\_\_\_\_ 0= Normal speech and thought  
1= Slight retardation at interview  
2= Obvious retardation at interview  
3= Interview difficult  
4= Complete stupor
9. **AGITATION**
- \_\_\_\_\_ 0= None  
1= Fidgetiness  
2= Playing with hands, hair, etc.  
3= Moving about, can't sit still  
4= Hand wringing, nail biting, hair-pulling, biting of lips
10. **ANXIETY (PSYCHOLOGICAL)**
- \_\_\_\_\_ 0= No difficulty  
1= Subjective tension and irritability  
2= Worrying about minor matters  
3= Apprehensive attitude apparent in face or speech  
4= Fears expressed without questioning
11. **ANXIETY SOMATIC:** Physiological concomitants of anxiety, (i.e., effects of autonomic overactivity, "butterflies," indigestion, stomach cramps, belching, diarrhea, palpitations, hyperventilation, paresthesia, sweating, flushing, tremor, headache, urinary frequency). Avoid asking about possible medication side effects (i.e., dry mouth, constipation)
- \_\_\_\_\_ 0= Absent  
1= Mild  
2= Moderate  
3= Severe  
4= Incapacitating
-

---

**12. SOMATIC SYMPTOMS (GASTROINTESTINAL)**

- \_\_\_\_\_ 0= None  
1= Loss of appetite but eating without encouragement from others. Food intake about normal  
2= Difficulty eating without urging from others. Marked reduction of appetite and food intake

**13. SOMATIC SYMPTOMS GENERAL**

- \_\_\_\_\_ 0= None  
1= Heaviness in limbs, back or head. Backaches, headache, muscle aches. Loss of energy and fatigability  
2= Any clear-cut symptom rates 2

**14. GENITAL SYMPTOMS** (Symptoms such as: loss of libido; impaired sexual performance; menstrual disturbances)

- \_\_\_\_\_ 0= Absent  
1= Mild  
2= Severe

**15. HYPOCHONDRIASIS**

- \_\_\_\_\_ 0= Not present  
1= Self-absorption (bodily)  
2= Preoccupation with health  
3= Frequent complaints, requests for help, etc.  
4= Hypochondriacal delusions

**16. LOSS OF WEIGHT**

- \_\_\_\_\_ A. When rating by history:  
0= No weight loss  
1= Probably weight loss associated with present illness  
2= Definite (according to patient) weight loss  
3= Not assessed

**17. INSIGHT**

- \_\_\_\_\_ 0= Acknowledges being depressed and ill  
1= Acknowledges illness but attributes cause to bad food, climate, overwork, virus, need for rest, etc.  
2= Denies being ill at all

**18. DIURNAL VARIATION**

- \_\_\_\_\_ A. Note whether symptoms are worse in morning or evening. If NO diurnal variation, mark none  
0= No variation  
1= Worse in A.M.  
2= Worse in P.M.
- \_\_\_\_\_ B. When present, mark the severity of the variation. Mark "None" if NO variation  
0= None  
1= Mild  
2= Severe
-

---

**19. DEPERSONALIZATION AND DEREALIZATION** (Such as: Feelings of unreality;  
Nihilistic ideas)

- \_\_\_\_\_ 0= Absent  
1= Mild  
2= Moderate  
3= Severe  
4= Incapacitating

**20. PARANOID SYMPTOMS**

- \_\_\_\_\_ 0= None  
1= Suspicious  
2= Ideas of reference  
3= Delusions of reference and persecution

**21. OBSESSIVE AND COMPULSIVE SYMPTOMS**

- \_\_\_\_\_ 0= Absent  
1= Mild  
2= Severe

Total Score \_\_\_\_\_

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## Dysfunctional Assumptions Scale

### DAS-SF1

The sentences below describe people's attitudes. Circle the number which best describes how much each sentence describes your attitude. Your answer should describe the way you think most of the time.

		Totally Agree	Agree	Disagree	Totally Disagree
1.	If I don't set the highest standards for myself, I am likely to end up a second-rate person.	1	2	3	4
2.	My value as a person depends greatly on what others think of me.	1	2	3	4
3.	People will probably think less of me if I make a mistake.	1	2	3	4
4.	I am nothing if a person I love doesn't love me.	1	2	3	4
5.	If other people know what you are really like, they will think less of you.	1	2	3	4
6.	If I fail at my work, then I am a failure as a person.	1	2	3	4
7.	My happiness depends more on other people than it does me.	1	2	3	4
8.	I cannot be happy unless most people I know admire me.	1	2	3	4
9.	It is best to give up your own interests in order to please other people.	1	2	3	4

		Totally Agree	Agree	Disagree	Totally Disagree
1.	If I am to be a worthwhile person, I must be truly outstanding in at least one major respect.	1	2	3	4
2.	If you don't have other people to lean on, you are bound to be sad.	1	2	3	4
3.	I do not need the approval of other people in order to be happy.	1	2	3	4
4.	If you cannot do something well, there is little point in doing it at all.	1	2	3	4
5.	If I do not do well all the time, people will not respect me.	1	2	3	4
6.	If others dislike you, you cannot be happy.	1	2	3	4
7.	People who have good ideas are more worthy than those who do not.	1	2	3	4
8.	If I do not do as well as other people, it means I am an inferior human being.	1	2	3	4
9.	If I fail partly, it is as bad as being a complete failure.	1	2	3	4

## Quality of Life Index

### Ferrans and Powers QUALITY OF LIFE INDEX® STROKE VERSION - III

**PART 1.** For each of the following, please choose the answer that best describes how *satisfied* you are with that area of your life. Please mark your answer by circling the number. There are no right or wrong answers.

HOW <i>SATISFIED</i> ARE YOU WITH:	Very Dissatisfied	Moderately Dissatisfied	Slightly Dissatisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied
1. Your health?	1	2	3	4	5	6
2. Your health care?	1	2	3	4	5	6
3. The amount of pain that you have?	1	2	3	4	5	6
4. The amount of energy you have for everyday activities?	1	2	3	4	5	6
5. Your ability to do things for yourself?	1	2	3	4	5	6
6. Your ability to get around (for example, to walk or use a wheelchair)?	1	2	3	4	5	6
7. Your ability to go places outside your home?	1	2	3	4	5	6
8. Your ability to speak?	1	2	3	4	5	6
9. The amount of control you have over your life?	1	2	3	4	5	6
10. Your chances of living as long as you would like?	1	2	3	4	5	6
11. Your family's health?	1	2	3	4	5	6
12. Your children?	1	2	3	4	5	6
13. Your family's happiness?	1	2	3	4	5	6
14. Your spouse, lover, or partner?	1	2	3	4	5	6
15. Your sex life?	1	2	3	4	5	6
16. Your friends?	1	2	3	4	5	6

(Please Go To Next Page)

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HOW <i>SATISFIED</i> ARE YOU WITH:	Very Dissatisfied	Moderately Dissatisfied	Slightly Dissatisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied
17. The emotional support you get from your family?	1	2	3	4	5	6
18. The emotional support you get from people other than your family?	1	2	3	4	5	6
19. Your ability to take care of family responsibilities?	1	2	3	4	5	6
20. How useful you are to others?	1	2	3	4	5	6
21. The amount of worries in your life?	1	2	3	4	5	6
22. Your neighborhood?	1	2	3	4	5	6
23. Your home, apartment, or place where you live?	1	2	3	4	5	6
24. Your job (if employed)?	1	2	3	4	5	6
25. Not having a job (if unemployed, retired, or disabled)?	1	2	3	4	5	6
26. Your education?	1	2	3	4	5	6
27. How well you can take care of your financial needs?	1	2	3	4	5	6
28. The things you do for fun?	1	2	3	4	5	6
29. Your chances for a happy future?	1	2	3	4	5	6
30. Your peace of mind?	1	2	3	4	5	6
31. Your faith in God?	1	2	3	4	5	6
32. Your achievement of personal goals?	1	2	3	4	5	6
33. Your happiness in general?	1	2	3	4	5	6
34. Your life in general?	1	2	3	4	5	6
35. Your personal appearance?	1	2	3	4	5	6
36. Yourself in general?	1	2	3	4	5	6

(Please Go To Next Page)

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**PART 2.** For each of the following, please choose the answer that best describes how *important* that area of your life is to you. Please mark your answer by circling the number. There are no right or wrong answers.

HOW IMPORTANT TO YOU IS:	Very Unimportant	Moderately Unimportant	Slightly Unimportant	Slightly Important	Moderately Important	Very Important
1. Your health?	1	2	3	4	5	6
2. Your health care?	1	2	3	4	5	6
3. Having no pain?	1	2	3	4	5	6
4. Having enough energy for everyday activities?	1	2	3	4	5	6
5. To be able to do things for yourself?	1	2	3	4	5	6
6. To be able to get around (for example, to walk or use a wheelchair)?	1	2	3	4	5	6
7. To go places outside your home?	1	2	3	4	5	6
8. To be able to speak?	1	2	3	4	5	6
9. Having control over your life?	1	2	3	4	5	6
10. Living as long as you would like?	1	2	3	4	5	6
11. Your family's health?	1	2	3	4	5	6
12. Your children?	1	2	3	4	5	6
13. Your family's happiness?	1	2	3	4	5	6
14. Your spouse, lover, or partner?	1	2	3	4	5	6
15. Your sex life?	1	2	3	4	5	6
16. Your friends?	1	2	3	4	5	6
17. The emotional support you get from your family?	1	2	3	4	5	6

(Please Go To Next Page)

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HOW IMPORTANT TO YOU IS:	Very Unimportant	Moderately Unimportant	Slightly Unimportant	Slightly Important	Moderately Important	Very Important
18. The emotional support you get from people other than your family?	1	2	3	4	5	6
19. Taking care of family responsibilities?	1	2	3	4	5	6
20. Being useful to others?	1	2	3	4	5	6
21. Having no worries?	1	2	3	4	5	6
22. Your neighborhood?	1	2	3	4	5	6
23. Your home, apartment, or place where you live?	1	2	3	4	5	6
24. Your job (if employed)?	1	2	3	4	5	6
25. Having a job (if unemployed, retired, or disabled)?	1	2	3	4	5	6
26. Your education?	1	2	3	4	5	6
27. Being able to take care of your financial needs?	1	2	3	4	5	6
28. Doing things for fun?	1	2	3	4	5	6
29. Having a happy future?	1	2	3	4	5	6
30. Peace of mind?	1	2	3	4	5	6
31. Your faith in God?	1	2	3	4	5	6
32. Achieving your personal goals?	1	2	3	4	5	6
33. Your happiness in general?	1	2	3	4	5	6
34. Being satisfied with life?	1	2	3	4	5	6
35. Your personal appearance?	1	2	3	4	5	6
36. Are you to yourself?	1	2	3	4	5	6

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## Work and Social Adjustment Scale

### Appendix D4 - Work and Social Adjustment

People's problems sometimes affect their ability to do certain day-to-day tasks in their lives. To rate your problems look at each section and determine on the scale provided how much your problem impairs your ability to carry out the activity.

1. **WORK** - if you are retired or choose not to have a job for reasons unrelated to your problem, please tick N/A (not applicable)

0	1	2	3	4	5	6	7	8	N/A
Not at all		Slightly		Definitely		Markedly	Very severely,		<input type="checkbox"/>
							I cannot work		

2. **HOME MANAGEMENT** – Cleaning, tidying, shopping, cooking, looking after home/children, paying bills etc

0	1	2	3	4	5	6	7	8
Not at all		Slightly		Definitely		Markedly	Very severely	

3. **SOCIAL LEISURE ACTIVITIES** - With other people, e.g. parties, pubs, outings, entertaining etc.

0	1	2	3	4	5	6	7	8
Not at all		Slightly		Definitely		Markedly	Very severely	

4. **PRIVATE LEISURE ACTIVITIES** – Done alone, e.g. reading, gardening, sewing, hobbies, walking etc.

0	1	2	3	4	5	6	7	8
Not at all		Slightly		Definitely		Markedly	Very severely	

5. **FAMILY AND RELATIONSHIPS** – Form and maintain close relationships with others including the people that I live with

0	1	2	3	4	5	6	7	8
Not at all		Slightly		Definitely		Markedly	Very severely	

W&SAS total score

## Short Health Anxiety Inventory, Adapted for Stroke

### Short HAI for patients who have had a stroke (items 12, 11, 9, 5 modified by researcher with Authors permission)

Each question in this section consists of a group of four statements. Please read each group of statements carefully and then select the one which best describes your feelings, over the **past six months**. Identify the statement by ringing the letter next to it e.g. if you think that statement (a) is correct, ring statement (a); it may be that more than one statement applies, in which case, please ring any that are applicable.

1.     a. I do not worry about my health  
       b. I occasionally worry about my health  
       c. I spend much of my time worrying about my health  
       d. I spend most of my time worrying about my health
  
2.     a. I notice aches/pains less than most other people (of my age)  
       b. I notice aches/pains as much as other people (of my age)  
       c. I notice aches/pains more than most other people (of my age)  
       d. I am aware of aches/pains in my body all the time
  
3.     a. As a rule I am not aware of bodily sensations or changes  
       b. Sometimes I am aware of bodily sensations or changes  
       c. I am often aware of bodily sensations or changes  
       d. I am constantly aware of bodily sensations or changes
  
4.     a. Resisting thoughts of illness is never a problem  
       b. Most of the time I can resist thoughts of illness  
       c. I try to resist thoughts of illness but am often unable to do so  
       d. Thoughts of illness are so strong that I no longer even try to resist them
  
5.     a. As a rule I am not afraid that I have a serious illness, other than having had a stroke  
       b. I am sometime afraid that I have a serious illness, other than having had a stroke  
       c. I am often afraid that I have a serious illness, other than having had a stroke  
       d. I am always afraid that I have a serious illness, other than having had a stroke
  
6.     a. I do not have images (mental pictures) of myself being ill  
       b. I occasionally have images of myself being ill  
       c. I frequently have images of myself being ill  
       d. I constantly have images of myself being ill
  
7.     a. I do not have any difficulty taking my mind off thoughts about my health  
       b. I sometimes have difficulty taking my mind off thoughts about my health  
       c. I often have difficulty in taking my mind off thoughts about my health  
       d. Nothing can take my mind off thoughts about my health

8. a. I am lastingly relieved if my doctor tells me there is nothing wrong  
b. I am initially relieved but he worries sometimes return later  
c. I am initially relieved but the worries always return later  
d. I am not relieved if my doctor tells me there is nothing wrong
9. a. If I hear about an illness, other than stroke, I never think I have it myself  
b. If I hear about an illness, other than stroke, I sometimes think I have it myself  
c. If I hear about an illness, other than stroke, I often think I have it myself  
d. If I hear about an illness, other than stroke, I always think I have it myself
10. a. If I have a bodily sensation or change I rarely wonder what it means  
b. If I have a bodily sensation or change I often wonder what it means  
c. If I have a bodily sensation or change I always wonder what it means  
d. If I have a bodily sensation or change I must know what it means
11. a. I usually feel at very low risk for developing a serious illness, other than having a stroke  
b. I usually feel at fairly low risk for developing a serious illness, other than having a stroke  
c. I usually feel at moderate risk for developing a serious illness, other than having a stroke  
d. I usually feel at high risk for developing a serious illness, other than having a stroke
12. a. I never think that I have a serious illness, other than having had a stroke  
b. I sometimes think that I have a serious illness, other than having had a stroke  
c. I often think that I have a serious illness, other than having had a stroke  
d. I usually think that I have a serious illness, other than having had a stroke
13. a. If I notice an unexplained bodily sensation I don't find it difficult to think about other things  
b. If I notice an unexplained bodily sensation I sometimes find it difficult to think about other things  
c. If I notice an unexplained bodily sensation I often find it difficult to think about other things  
d. If I notice an unexplained bodily sensation I always find it difficult to think about other things
14. a. My family/friends would say I do not worry enough about my health  
b. My family/friends would say I have a normal attitude to my health  
c. My family/friends would say I worry too much about my health  
d. My family/friends would say I am a hypochondriac
-

## Pathological Laughing and Crying Scale

(Copied directly from Robinson et al., 1993)

### APPENDIX 1. Pathological Laughter and Crying Scale (Patient Interview)

*Ratings are based on clinical assessment. Initial probe questions are given for each item. However, further questions may be used for clarification. Write the number in the spaces provided which most accurately reflects clinical symptoms.*

1. Have you recently experienced sudden episodes of laughter?  
\_\_\_ Rate the frequency of the episodes during the past two weeks.  
0. Rarely or not at all  
1. Occasionally  
2. Quite often  
3. Frequently
2. Have you recently experienced sudden episodes of crying?  
\_\_\_ Rate the frequency of the episodes during the past two weeks.  
0. Rarely or not at all  
1. Occasionally  
2. Quite often  
3. Frequently

*If you have experienced sudden episodes of laughter, please answer the following (questions 3-10), otherwise skip to question 11.*

3. Have these episodes occurred without any cause in your surroundings?  
\_\_\_ Rate the frequency with which the episodes have occurred without external stimuli in the past two weeks.  
0. Rarely or not at all  
1. Occasionally  
2. Quite often  
3. Frequently
4. Have these episodes lasted for a long period of time?  
\_\_\_ Rate the average duration of the episodes during the past two weeks.

0. Very brief  
1. A few seconds  
2. Moderate (less than 30 seconds)  
3. Prolonged (more than 30 seconds)
5. Have these episodes been uncontrollable by you?  
\_\_\_ Rate the ability to control the episodes during the past two weeks.  
0. Rarely or not at all  
1. Occasionally  
2. Quite often  
3. Frequently
6. Have these episodes occurred as a result of feelings of happiness?  
\_\_\_ Rate the frequency with which the episodes have occurred as a result of happiness in the past two weeks.  
0. Rarely or not at all  
1. Occasionally  
2. Quite often  
3. Frequently
7. Have these episodes occurred in excess of feelings of happiness?  
\_\_\_ Rate the frequency with which the episodes have been disproportionate to the emotional state in the past two weeks.  
0. Rarely or not at all  
1. Occasionally  
2. Quite often  
3. Frequently
8. Have these episodes of laughter occurred with feelings of sadness?  
\_\_\_ Rate the frequency of association between the episode and the paradoxical emotion in the past two weeks. The sadness must precede or accompany the episode and not be a reaction to it.



- 0. Rarely or not at all
  - 1. Occasionally
  - 2. Quite often
  - 3. Frequently
9. Have these episodes occurred with any emotions other than happiness or sadness, such as nervousness, anger, fear, etc.?

— Rate the frequency of association between the episodes and emotions in the past two weeks. The emotions must precede or accompany the episode and not be a reaction to it.

- 0. Rarely or not at all
  - 1. Occasionally
  - 2. Quite often
  - 3. Frequently
10. Have these episodes caused you any distress or social embarrassment?
- Rate the degree of distress or embarrassment caused by the episodes in the past two weeks
- 0. Rarely or not at all
  - 1. Occasionally
  - 2. Quite often
  - 3. Frequently

*If you have experienced sudden episodes of crying, please answer the following (questions 11–18).*

11. Have these episodes occurred without any cause in your surroundings?

— Rate the frequency with which the episodes have occurred without external stimuli in the past two weeks.

- 0. Rarely or not at all
- 1. Occasionally
- 2. Quite often
- 3. Frequently

12. Have these episodes lasted for a long period of time?

— Rate the average duration of the episodes during the past two weeks.

- 0. Very brief
- 1. Short (a few seconds)
- 2. Moderate (less than 30 seconds)
- 3. Prolonged (more than 30 seconds)

13. Have these episodes been uncontrollable by you?

— Rate the ability to control the episodes during the past two weeks.

- 0. Rarely or not at all
- 1. Occasionally
- 2. Quite often
- 3. Frequently

14. Have these episodes occurred as a result of feelings of sadness?

— Rate the frequency with which the episodes have occurred as a result of sadness in the past two weeks. The sadness must precede or accompany the crying and not be a reaction to it.

- 0. Rarely or not at all
- 1. Occasionally
- 2. Quite often
- 3. Frequently

15. Have these episodes occurred in excess of feelings of sadness?

— Rate the frequency with which the episodes have been disproportionate to the emotional state in the past two weeks

- 0. Rarely or not at all
- 1. Occasionally
- 2. Quite often
- 3. Frequently

16. Have these episodes of crying occurred with feelings of happiness?

— Rate the frequency of association between the episode and the paradoxical emotion in the past two weeks. The happiness must precede or accompany the crying.

- 0. Rarely or not at all
- 1. Occasionally
- 2. Quite often
- 3. Frequently

17. Have these episodes occurred with any emotions other than sadness or happiness, such as nervousness, anger, fear, etc.?

— Rate the frequency of association between the episodes and emotions in the past two weeks. The emotions must precede or accompany the episode and not be a reaction to it.

- 0. Rarely or not at all
- 1. Occasionally
- 2. Quite often
- 3. Frequently

18. Have these episodes caused you any distress or social embarrassment?

— Rate the degree of distress or embarrassment caused by the episodes in the past two weeks.


- 0. Rarely or not at all
- 1. Occasionally
- 2. Quite often
- 3. Frequently



### **Appendix C3: Information relevant to ethical review**

Copies of approval emails and letters from The National Research Ethics Service South Central (Berkshire) Committee, The National Institute for Social Care and Health Research, and The University of Bath Research Ethics Committee are copied below.

#### **National Research Ethics Service South Central (Berkshire) Committee (reference 13 SC 0450)**

		 <b>Health Research Authority</b>
		<b>NRES Committee South Central - Berkshire</b> Bristol REC Centre Whitefriars Level 3, Block B Lewins Mead Bristol BS1 2NT  Telephone: 0117 3421389 Facsimile: 0117 3420445
21 August 2013		
Ms Charlotte Morris Clinical Psychologist in Training Taunton and Somerset NHS Foundation Trust Department of Clinical Psychology (6 West) University of Bath, Claverton Down Bath BA2 7AY		
Dear Ms Morris,		
<b>Study title:</b>	Is post-stroke depression phenomenologically different in people who have not experienced a previous episode of depression? A pilot study	
<b>REC reference:</b>	13/SC/0450	
<b>IRAS project ID:</b>	130381	
Thank you for your letter of 20 August 2013, responding to the Proportionate Review Sub-Committee's request for changes to the documentation for the above study.		
The revised documentation has been reviewed and approved by the sub-committee.		
We plan to publish your research summary wording for the above study on the NRES website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to withhold permission to publish, please contact the Co-ordinator Ms Rae Granville, <a href="mailto:nrescommittee.southcentral-berkshire@nhs.net">nrescommittee.southcentral-berkshire@nhs.net</a> .		
<b>Confirmation of ethical opinion</b>		
On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.		
A Research Ethics Committee established by the Health Research Authority		

### Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

### Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

*Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.*

*Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.*

*Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.*

*For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.*

*Sponsors are not required to notify the Committee of approvals from host organisations.*

**It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).**

You should notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. The REC will acknowledge receipt and provide a final list of the approved documentation for the study, which can be made available to host organisations to facilitate their permission for the study. Failure to provide the final versions to the REC may cause delay in obtaining permissions.

### Approved documents

The documents reviewed and approved by the Committee are:

Document	Version	Date
Covering Letter		05 August 2013
Evidence of insurance or indemnity	University of Bath	26 July 2013
GP/Consultant Information Sheets	1	07 August 2013
Investigator CV	Ms Morris	05 August 2013
Investigator CV	Leon Dysch	05 August 2013

Investigator CV	Paul Salkovskis	05 August 2013
Letter from Sponsor		26 July 2013
Other: Flow Chart		
Participant Consent Form	1	07 August 2013
Participant Information Sheet	2	21 August 2013
Protocol	1	07 August 2013
Questionnaire: Validated: Questionnaire Battery		
REC application		05 August 2013
Response to Request for Further Information		20 August 2013

#### **Statement of compliance**

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

#### **After ethical review**

##### Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

##### Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

13/SC/0450

Please quote this number on all correspondence

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at <http://www.hra.nhs.uk/hra-training/>

With the Committee's best wishes for the success of this project.

Yours sincerely,



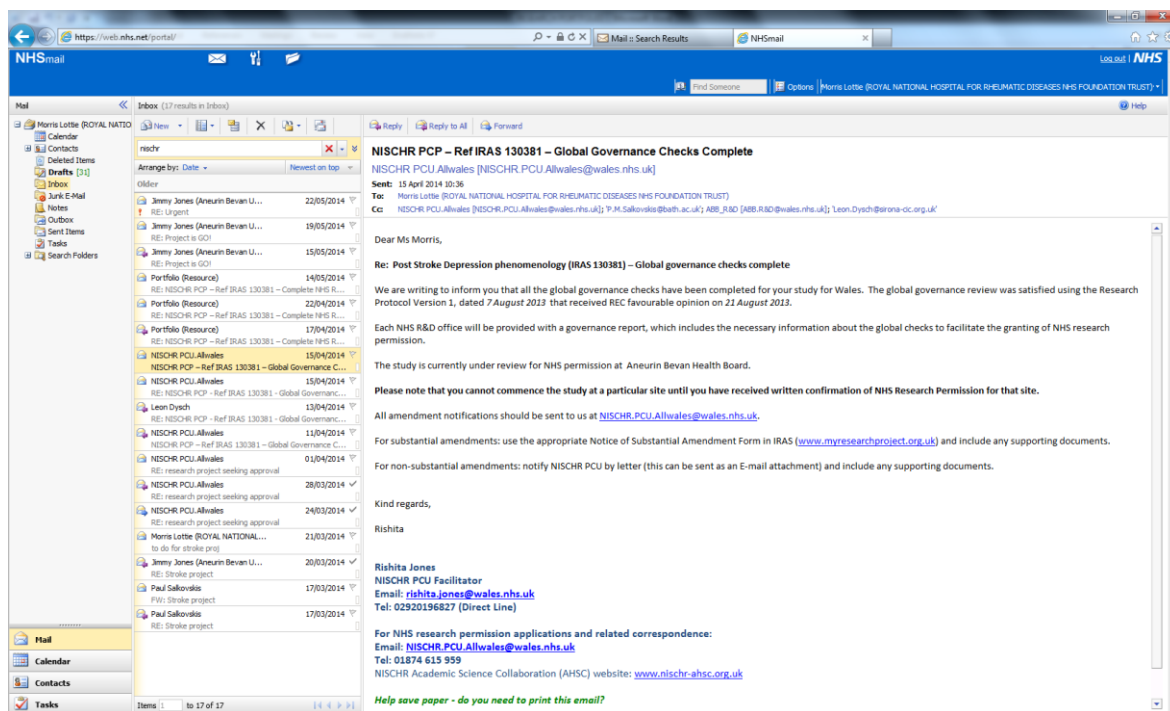
**Mr David Carpenter**  
Chair

Email: [nrescommittee.southcentral-berkshire@nhs.net](mailto:nrescommittee.southcentral-berkshire@nhs.net)

Enclosures: *After ethical review – guidance for researchers*

Copy to: *Professor Jane Millar*  
*Dr Neil Simpson, Sirona Care and Health*

## National Institute for Social Care and Health Research (reference 130381)



## University of Bath Research Ethics Committee (reference 14-043)

Dear Lottie Morris

Reference Number 14-043

Sincere apologies for the delay in reviewing your application.

I have now considered your ethics proposal for the study entitled 'Is post-stroke depression phenomenologically different in people who have not experienced a previous depressive episode?' and have given it full ethical approval.

Best wishes with your research.

Dr Helen Lucey  
Chair Psychology Ethics Committee  
University of Bath

Information about making an ethics application can be found at <http://moodle.bath.ac.uk/course/view.php?id=52192>